University of Alberta

1991/92 Calendar

Please Note:

(1) Students are responsible for the completeness and accuracy of their registrations and for completion of the specified program requirements. This requires careful attention to course selection and compliance with prerequiste and corequisite requirements. Please read the Calendar carefully and use it when you register. If in doubt about the regulations pertaining to your program, consult the appropriate University official.

(2) The Calendar sets forth the intention of the University at the time of its publication, with respect to all matters contained therein. The University reserves the right at any time to deviate from what appears in the Calendar, either in order to serve the best interests of the University, or because of circumstances beyond the University's reasonable control. The University expressly denies responsibility or liability to anyone who may suffer loss or may be otherwise adversely affected by such change.

(3) The University cannot supply more than one copy of the University Calendar to each student. Additional copies of this Calendar, along with the Registration Procedures Booklet, are available from:

University of Alberta Bookstore
University of Alberta
Edmonton, Alberta, Canada
T6G 2M7

Cost: $5.50 plus GST for in-person purchases and $6.00 plus GST if you wish us to mail you copies.

(4) Professional requirements: Students or prospective students intending to enter a profession following graduation should contact the appropriate faculty office in order to ascertain what requirements there are for professional registration above and beyond posession of the prescribed University degree or diploma. In some cases this information is provided in the faculty section of this Calendar.

(5) Application deadlines for all programs are listed in §14 of this Calendar. Other deadlines are set out in the Academic Schedule §11.

(6) University office hours are:

September-April: 8:30-12:00 and 1:00-4:30;
May-August: 8:00-1200 and 1:00-4:00;
weekdays (except holidays).
Telephone number: (403) 492-3111.

Inquiries:

Inquiries should be directed as follows: (All addresses should contain the suffix: University of Alberta, Edmonton, Alberta, T6G 2E2)

Academic matters:

Faculty of Agriculture and Forestry:
EW Tyrchniewicz, Dean; Room 214B Agriculture and Forestry Centre (492-4931)

Faculty of Arts:
Arts Faculty Student Programs Office, 6-7 Humanities Building (492-4295)

Faculty of Business:
J-L Malouin, Dean Business Building (492-3901)
JL Brown, Associate Dean (Planning and Administration Programs), Business Building, (492-3901)
TE Daniel, Associate Dean (Programs), Business Building (492-3964 or 492-3947)
RM Korkie, Director, PhD Program, Business Building (492-2361)

Faculty of Dentistry:
Dentistry Programs: N Wood, Dean; Room 3036, Dentistry-Pharmacy Centre (492-3312)
Dental Hygiene Program: J Pimlott, Chair, Room 2032, Dentistry-Pharmacy Centre (492-4479)
Division of Dental Hygiene, Room 2032, Dentistry-Pharmacy Centre (492-4479).

Faculty of Education:
RS Patterson, Dean, Room 845, Education Building (492-3751)
DJ Sande, Associate Dean, (Undergraduate Studies) Room 833, Education Building (492-3749)
EA Conn-Blowers, Assistant Dean, Room 833, Education Building (492-7375)

Faculty of Engineering:
Dr FD Otto, Dean; 5-1 Mechanical Engineering Building (492-3320)
Professor LR Plitt, Associate Dean (Student Services), 5-1 Mechanical Engineering Building (492-3399)

Faculty of Home Economics:
C Landry, Undergraduate Admissions and Student Affairs, 115B Home Economics Building (492-4586)
M Cox-Bishop, Associate Dean, Room 110, Home Economics Building (492-2908)
Z Hawrysh, Chair, Foods and Nutrition, Room 308C, Home Economics Building (492-3830)
N Kerr, Chair, Clothing and Textiles, Room 301, Printing Services Building (492-7679)
N Keating, Chair, Family Studies, Room 3-30, Assiniboia Hall (492-4191)

Faculty of Law:
Information/Switchboard: 492-3115
Law Admissions: G Dahlstedt, Admissions Secretary, Room 484 B, Law Centre (492-3062)
K Wilson, Admissions Secretary, Room 484 B, Law Centre (492-3067)
Administration: DM Conlon, Faculty Administrator, Room 481, Law Centre (492-4784)
Academic Matters: BH Ziff, Associate Dean, Room 485, Law Centre (492-2151)
GH Forsythe, Assistant Dean (Student Services), Room 474, Law Centre (492-7306)
TJ Christian, Dean, Room 485, Law Centre (492-5590).

Faculty of Library and Information Studies:
Dean, Faculty of Library and Information Studies, 3-20 Rutherford Library South (492-4578)

Faculty of Medicine:
Pre-admission and prerequisites: Admissions Officer, 2J211 WC Mackenzie Health Sciences Centre (492-6350)
Academic matters: Associate Dean-Undergraduate Medical Education and Student Affairs, 2J211 WC Mackenzie Health Sciences Centre (492-6350)

School of Native Studies:
RT Price, Director, 11023-90 Avenue (492-2991)

Faculty of Nursing:
First and Second Year Collaborative Program: University of Alberta School of Nursing, Education and Development Centre (492-6249 and 492-6728).
All other Nursing Programs: Faculty of Nursing, Third Floor, Clinical Sciences Building (492-4404)

Faculty of Pharmacy and Pharmaceutical Sciences:
Dr RE Moskalyk, Dean, Room 3112A, Dentistry-Pharmac Centre (492-0199)
Undergraduate Admissions Coordinator, Room 3118 Dentistry-Pharmacy Centre (492-3363)
Graduate Admissions Coordinator, Room C7, Civil Electric Building (492-2967)
Continuing Pharmacy Education Director, Room 411 Dentistry-Pharmacy Centre (492-2393)

Faculty of Physical Education and Recreation:
Dr EJ Watkinson, Dean, Room W1-34F, Van Vliet Centr (492-3364)
Professor ML Padfield, Associate Dean (Academic), Roo W1-34H, Van Vliet Centre (492-1001)
Dr DHP Schulha, Chair of Athletics, Room P220 Universiade Pavilion (492-3413)
Dr HA Quinney, Chair of Physical Education and Sport Studies, Room P420, Universiade Pavilion (492-3615)
Dr GS Swinnerton, Chair of Recreation and Leisure Studies Room E479, Van Vliet Centre (492-2677)

Faculty of Rehabilitation Medicine:
MC Piper, Dean, 3073 Nurses Residence (492-5991)
S Brintnell, Chair of Occupational Therapy, Corbett Ha (492-2067)
DJ Magee, Chair of Physical Therapy, Corbett Hall (492 5984)
G Holdgrafer, Chair of Speech Pathology and Audiolog 4th Floor, Garneau Professional Centre 11044-82 Ave (492-5980)

Faculté Saint-Jean:
Dr J-A Bour, Dean 8406-91 Str, Edmonton, AB T6C 4G (465-8705)
L Villeneuve, Admissions and Student Records, 8406-9 Str, Edmonton, AB T6C 4G9 (465-8705)

Faculty of Science:
WJ McDonald, Dean, Room CW223, Biological Science Centre (492-4757)
DD Beatty, Associate Dean, Room CW223 Biologica Sciences Centre (492-4758)
GA Chambers, Associate Dean, Room CW223 Biologica Sciences Centre (492-4758)
JM Stanley, Student Services Officer, Room CW 22 Biological Sciences Centre (492-4758)

Admission of Canadian students, registration, records, transcripts, convocation:
Office of the Registrar, Administration Building (492-311

Foreign admission:
Office of the Registrar, Administration Building (492-498

Examinations:
Office of the Registrar, Administration Building (492-5221

Personal problems, psychological assessment, career planning, academic concerns and university information:
Student Counselling Services, 102 Athabasca Ha (492-5205)

Financial assistance, scholarships and awards:
Director, Student Awards, 252 Athabasca Hall (492-3495

University residence and other housing:
Director, Housing and Food Services, 44 Lister Ha (492-4281)

Student affairs:
Dean of Students, Office of the Dean of Students, 30 Athabasca Hall (492-2968)

Native affairs:
Office of Native Student Services, 124 Athabasca Ha (492-5677)

Fee payment:
Office of the Comptroller, 3rd floor, Administration Buildin (492-3389)

Library:
Main Floor, Cameron Library (492-4174).

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University of Alberta
Edmonton

1991/92 Calendar

University Regulations and Information for Students

University Regulations and Information for Students

11 ACADEMIC SCHEDULE 1991-92

All deadlines in the academic schedule are marked by the * symbol. FAILURE TO ADHERE TO THESE DEADLINES CAN RESULT IN ACADEMIC AND FINANCIAL PENALTY. Application deadlines for undergraduate admissions, readmissions, and transfers are summarized in §14.2 of the University Calendar. Application deadlines for the Faculty of Graduate Studies & Research will be found in §202 of the Calendar.

1991

JULY

1 Eighty-fifth University year begins.

1 Canada Day holiday; University buildings closed.

2 Last day for the Registrar's Office to receive applications for deferred final examinations to be written in August.

Intersession, Summer-Term courses begin.

2-3 Auditor registrations for Intersession, Summer-Term courses will be accepted only on these days (see §12.2.3).

3 *INTERSESSION, SUMMER-TERM REGISTRATION DEADLINE: Last day to add or drop these courses (see §§16.9.3 and 15.2.6).

*Last day for payment without penalty for Intersession, Summer-Term courses.

5 *Last day for students who have been required to withdraw to notify Student Counselling Services that they are seeking readmission.

6 Intersession, Summer-Term classes continue on this day in lieu of those cancelled because of the July 1 holiday.

12 *Last day for submission of Matriculation Award applications to the Student Awards Office.

*Last day for the Registrar's Office to receive applications for reexaminations (students in Dentistry, Graduate Studies and Research, Law, and the MD program should consult their Faculty offices).

15-19 *Last day for students in the Faculty of Law to apply for special reexaminations and deferred examinations.

16 INTERSESSION, SUMMER-TERM REFUND DEADLINE: Students withdrawing after this date will be assessed full fees (see §15.2.6).

26 *Last day for withdrawal from courses in Intersession, Summer-Term.

27 Intersession, Summer-Term classes continue on this day in lieu of those cancelled because of the August 5 holiday.

31 *Last day for the Registrar's Office to receive Faculty-approved applications for special reexaminations and special deferred examinations.

AUGUST

5 Heritage Day; University buildings closed.

6-10 Regular reexaminations and deferred examinations, except for students in Law (June 17 to 21).

9 Final examinations for Intersession, Summer-Term courses.

24 Orientation for mature students.

26 Orientation for students in Dentistry.

28 Orientation and classes commence for students in the third year of the MD program.

28 Classes begin for students in Dentistry.

28-30 Orientation for international students (see also August 31).

Orientation for first year students in Occupational Therapy (see also September 3 and 4).

30 *Last day for undergraduate students to apply to their Faculty office for permission to graduate at Fall Convocation.

31 Orientation for international students continues.

SEPTEMBER

2 Labor Day; University buildings closed.

3 Orientation and classes begin for students in first and second years of the MD program.

3-5 Orientation for students in first year of Law.

3-4 Registrants in Winter Session, first-term and full-session courses, excluding students in Dentistry and first year Occupational Therapy, confirm registration by picking up class timetables in accordance with the published schedule.

Orientation for first year students in Occupational Therapy continues.

5 Winter Session classes begin for remaining students (except first-year Law).

6 Winter Session classes begin for first-year Law students.

7 Special reexaminations and deferred examinations.

Orientation for first-year and transfer students in Home Economics.

9 Deadline for Law students to obtain out-of-Faculty course approval.

11 *WINTER SESSION, FIRST-TERM REGISTRATION DEADLINE:

Last day to add or drop Winter Session, first-term and full-session courses. Students withdrawing after this date and up to October 15 will be assessed 50% fees for withdrawn courses (see §§16.9.3 and 15.2.6).

12-16 Registrations by undergraduate students to audit or to change from "credit" to "audit" in Winter Session, first-term and full-session courses will be accepted only during this period (see §12.2.3).

Registrations by students in Graduate Studies & Research to audit Winter Session, first-term and full-session courses will be accepted only during this period.

14 "Late arrival" orientation for international students.

27 *Last day for payment of Winter Session fees without penalty (see §15.2).

OCTOBER

4 *Last day for withdrawal from Physical Education & Recreation PAC 100-level courses offered in the first half of the Winter Session, first-term.

11 *Last day for submission of unbound theses and Notices of Completion of Non-Thesis Programs to the Faculty of Graduate Studies & Research to ensure graduation at Fall Convocation.

14 Thanksgiving Day; University buildings closed.

15 *WINTER SESSION, FIRST-TERM REFUND DEADLINE: Students withdrawing after this date will be assessed full fees (see §15.2.6).

18 *Last day for withdrawal from Winter Session, first-term courses by students in Law and Graduate Studies & Research.

*Last day for changing from "credit" to "audit" in Winter Session, first-term courses by students in Graduate Studies & Research.

21 Classes begin for Physical Education & Recreation PAC 100-level courses offered in the second half of the Winter Session, first-term.

21-25 Winter Session, mid-term Test Week. Off-campus, University-organized, extra-curricular activities will not normally be allowed during this week.

NOVEMBER

11 Remembrance Day; University buildings closed.

15 *Last day for withdrawal from Winter Session, first-term courses by undergraduate students (see §§16.9.3 and 15.2.6), except for students in Law. Students in Education should consult their Faculty section of the Calendar for information on professional term withdrawal deadlines.

*Last day for withdrawal from Physical Education & Recreation PAC 100-level courses offered in the second half of the Winter Session, first-term.

21 Fall Convocation, Part I.

23 Fall Convocation, Part II.

DECEMBER

4 *Last day of Winter Session, first-term classes except for students in Dentistry, first-year Law, and the MD program.

5 *Last day of Winter Session, first-term classes for students in first-year Law.

9 Consolidated Examinations.

10-19 Winter Session, mid-session examinations for all students except in Dentistry, Law, and the MD program. Off-campus, University-organized, extra-curricular activities will not normally be allowed during this period. Mid-session or final examinations (if any) for all on-campus courses offered at 1700 hours or later are held during the last regular class period before mid-session examination week (except for courses in Law, MBA and MPM programs, and AGFOR 320).

10-21 Winter Session, mid-session examinations for students in Law.

13 *Last day of Winter Session, first-term classes for students in Dentistry.

14 Consolidated Examinations.

16-20 Term-end examinations for students in Dentistry.

20 *Last day of Winter Session, first-term classes and examinations for students in the MD program.

Consolidated Examinations.

25-27 Christmas holidays; University buildings closed.

1992

JANUARY

1 New Year's Day; University buildings closed.

2 Clinical Placements begin for third and fourth year Physical Therapy students.

3 *Students registered in Winter Session, second-term courses **only** confirm registration by picking up class timetables.

Orientation for international students.

6 Winter Session, second-term classes begin.

8 Deadline for Law students to obtain out-of-Faculty course approval.

10 *WINTER SESSION, SECOND-TERM REGISTRATION DEADLINE:

Last day to add or drop Winter Session, second-term courses. Students withdrawing after this date and up to January 31 will be assessed 50% fees for withdrawn courses (see §§16.9.3 and 15.2.6).

*Last day for withdrawal from Winter Session, full-session courses (see §16.9.3).

*Last day for changing from "credit" to "audit" in Winter Session, full-session courses by students in Graduate Studies & Research.

*Last day for Pharmacy students to register in second-term BLOCK courses offered in the first six weeks of term.

13-15 Registrations by undergraduate students to audit or to change from "credit" to "audit" in Winter Session, second-term courses will be accepted only during this period.

Registrations by students in Graduate Studies & Research to audit Winter Session, second-term courses will be accepted only during this period.

15 *Last day for payment without penalty of second installment of Winter Session fees, or of fees assessed for students attending only in second-term (see §15.2).

31 *WINTER SESSION, SECOND-TERM REFUND DEADLINE: Students withdrawing from courses after this date will be assessed full fees (see §15.2.6).

*Last day for withdrawal from second-term Pharmacy BLOCK courses and Physical Education & Recreation PAC 100-level courses offered in the first half of the Winter Session, second-term.

FEBRUARY

1 *Last day for undergraduate students to apply to their Faculty office for permission to graduate at Spring Convocation.

*Last day for submission of Graduate Studies Award applications to the Student Awards Office.

14 *Last day for withdrawal from Winter Session, second-term courses by students in Law and Graduate Studies & Research.

*Last day for changing from "credit" to "audit" in Winter Session, second-term courses by students in Graduate Studies & Research.

17 Statutory Provincial holiday; University buildings closed.

18-21 Winter Session, mid-term Test Week. Off-campus, University-organized, extra-curricular activities will not normally be allowed during this week.

18 Classes begin for Physical Education & Recreation PAC 100-level courses offered in the second half of the Winter Session, second-term.

24-28 Second-term Reading Week; classes withdrawn for a full week, except for students in fourth year of Occupational Therapy, third and fourth years of Physical Therapy, and third and fourth years of the MD program.

Students registered in Education practicum experiences should consult their Faculty section of the Calendar for information on alternate Reading Week dates.

27-28 University Orientation Days.

MARCH

6 *Last day to register in second-term Pharmacy BLOCK courses offered in the second half of the Winter Session, second-term.

9 12:00 noon to 1:00 p.m. Student's Union Election Rally. Classes withdrawn for this time period.

20 *Last day for withdrawal from Winter Session, second-term courses by undergraduate students (see §§16.9.3 and 15.2.6), except for students in Law. Students in Education should consult their Faculty section of the Calendar for information on professional term withdrawal deadlines.

*Last day to withdraw from second-term Physical Education & Recreation PAC 100-level courses offered in the second half of Winter Session, second-term.

27 *Last day to withdraw from second-term Pharmacy BLOCK courses offered in the second half of Winter Session, second-term.

31 *Last day for payment of Survey School fees by students in second year of Civil, Mining, and Agricultural Engineering.

*Last day for payment of Spring Camp fees by students registered in FOR 301.

APRIL

9 *Last day of Winter Session classes except for students in Dentistry and the MD program.

13 Consolidated Examinations.

14-27 Winter Session final examination period except for students in Dentistry, Law, the MD program, and fourth year of Pharmacy. Final examinations (if any) for all on-campus courses offered at 1700 hours or later are held during the last regular class period before examination week (except for courses in Law, the MBA and MPM programs, and AGFOR 320).

15-30 Winter Session final examination period for students in Law.

17 Good Friday; University buildings closed.

20 Easter Monday; University buildings closed.

20-24 Winter Session final examination period for students in fourth year of Pharmacy.

24 *Last day for submission of unbound theses and Notices of Completion of Non-Thesis Programs to the Faculty of Graduate Studies & Research to ensure graduation at Spring Convocation.

25 Consolidated Examinations.

27 Comprehensive examinations begin for students in the fourth year of the MD program.

28 Last day of academic work for students in third year of the MD program.

Consolidated Examinations.

29 *Last day of classes for students in Dentistry.

MAY

1 Students in third year of the BSc in Medical Laboratory Science program begin year of practical training.

*Last day for students in Home Economics to apply for practicums in CL TX 506 or FAM 445 for September 1992 or January 1993.

3 *Last day of program in fourth year of the MD program.

4 Intersession, Spring-Term classes begin.

Survey School begins for students in second year of Civil, Mining, and Agricultural Engineering.

Winter Session final examination period begins for students in Dentistry.

4-5 Auditor registrations for Intersession, Spring-Term courses will be accepted only on these days (see §12.2.3).

5 *INTERSESSION, SPRING-TERM REGISTRATION DEADLINE: Last day to add or drop these courses (see §§16.9.3 and 15.2.6).

*Last day for payment without penalty for Intersession, Spring-Term courses.

5-6 Medical Council of Canada examinations.

9 Charter Day.

Intersession, Spring-Term classes continue on this day in lieu of those cancelled because of the May 18 holiday.

18 Victoria Day; University buildings closed.

19 INTERSESSION, SPRING-TERM REFUND DEADLINE: Students withdrawing after this date will be assessed full fees (see §15.2.6).

22 *Last day of classes and examinations for students in first and second years of the MD program.

27 *Last day for students in Law to apply for examination re-evaluations.

29 *Last day for withdrawal from courses in Intersession, Spring-Term.

*Last day for submission of Undergraduate Award applications to the Student Awards Office.

JUNE

1-5,8 Spring Convocation, Parts I to VI.

5 Last day for Law students to file Notice of Appeal with the Associate Dean of Law.

11-12 Faculty of Law Appeal Hearings.

12 Final examinations for Intersession, Spring-Term courses.

15-19 Deferred examinations and reexaminations for full-year and first-term law courses.

17 Last day for students in the Faculty of Law to apply for reexaminations from second-term courses.

30 Eighty-fifth University year ends.

12 Classification of Programs and Students

12.1 Programs of Study

The Faculties of the University offer programs leading to a degree, a diploma, a certificate, or entrance to a further program, as shown below. Years of study are counted from matriculation unless otherwise noted.

	Years of Study
Faculty of Agriculture and Forestry	
BSc (Agriculture)	4
BSc (Agricultural Business Management)	4
BSc (Agricultural Engineering)	4
BSc Cooperative Program (Agricultural Engineering)	5
BSc (Food Science)	4
BSc (Forestry)	4
Pre-Veterinary Medicine program	2
Faculty of Arts	
BA	4
BA (After Degree)	varies
BA (Honors)	4
BA (Honors) After Degree	varies
BA (Canadian Studies)	4
BA (Criminology)	4
BA (East Asian Studies)	4
BFA (Art and Design)	4
BFA (Drama) Acting (one preprofessional year plus)	3
BFA (Drama) Theatre Design (one preprofessional year plus)	3
BFA (Art and Design) or (Drama) After Degree	varies
BMus	4
BMus (After Degree)	varies
BMus (Honors)	4
Certificate of Equivalence	1
Faculty of Business	
BCom	4
Faculty of Dentistry	
Dental Hygiene Diploma	2
DDS (two preprofessional years plus)	4
Postgraduate Certificate in Orthodontics	3
Faculty of Education	
BEd (Elementary, Industrial Arts, Secondary, or Vocational route)	4
BEd (After Degree)	2
BEd (for Certified Teachers)	3
BEd/BSc Combined	5
BPE/BEd Combined	5
Postgraduate Diploma in Education	1
Faculty of Engineering	
BSc (Chemical, Chemical (Computer Process Control), Civil, Computer, Electrical, Engineering Physics, Mechanical, Metallurgical, Mining, Petroleum)	4
BSc Cooperative Program (Chemical, Chemical (Computer Process Control), Civil, Computer, Electrical, Mechanical, Metallurgical, Mining, Petroleum)	
Faculty of Home Economics	
BSc (HEc) (Clothing and Textiles, or Family Studies, or Foods and Nutrition)	
Faculty of Law	
LLB (a university degree or a minimum of two preprofessional years plus)	
MBA/LLB (combined program)	
MPM/LLB (combined program)	
Faculty of Library and Information Studies	
MLIS (must have an acceptable baccalaureate degree)	
Faculty of Medicine	
MD (a university degree or a minimum of two preprofessional years plus)	
BSc (Medical Laboratory Science)	
School of Native Studies	
BA (Native Studies)	
BA (Native Studies) After Degree	
Faculty of Nursing	
BScN	
BScN (post-RN program)	
Certificate Programs	varie
Graduate Certificate in Midwifery	varie
Faculty of Pharmacy and Pharmaceutical Sciences	
BSc (Pharmacy) (one preprofessional year plus)	
Faculty of Physical Education and Recreation	
BPE	
BPE/BEd Combined	5
BA (Recreation Administration) (one preprofessional year plus)	3
Faculty of Rehabilitation Medicine	
BSc (Occupational Therapy) (one preprofessional year plus)	3
Post-Diploma Degree Completion Program (Occupational Therapy)	1
BSc (Physical Therapy)	4
Post-Diploma Degree Completion Program (Physical Therapy)	1
Faculté Saint-Jean	
(All programs taught in French)	
BA (Canadian Studies)	4
BA (Humanities)	4
BA (Social Sciences)	4
BEd (Elementary Route)	4
BEd (Secondary Route)	4
BEd (After degree)	2
BEd/BSc Combined	5
BSc (General))	4
Diploma in Education	1
Faculty of Science	
BSc (General)	4
BSc (Specialization)	4
BSc (Honors)	4
BSc (General, Specialization, and Honors) After Degree	varies
BEd/BSc	5
Special Certificate	1

Faculty of Graduate Studies and Research

MAg, MA, MBA, MBA/LLB, MEd, MEng, MFA, MPharm, MHSA, MLIS, MMus, MN, LLM, MPM, MPM/LLB, MSc, MVA, PhD, EdD, DMus, Postgraduate Diplomas in: Dentistry, Educational Administration, English, Exploration Geology, Health Services Administration, Law, and Textile Conservation and Curatorship - see Graduate Studies and Research sections of this Calendar, §§201 to 204.

12.2 Classification of Students

12.2.1 Undergraduate and Graduate Students

(1) **Undergraduate students** are those who are registered in a program leading to a bachelor's degree or first professional degree (or equivalent). A student's registration status can fall into one of two categories:

a. **Full-time students**: those who are registered for credit in 9 units of course weight or more in one term.

b. **Part-time students**: those who are registered for credit in fewer than 9 units of course weight in one term.

(1) **Graduate students** are those who hold the bachelor's degree or first professional degree (or equivalent) and are enrolled in a program leading to a graduate degree such as a Master's or PhD. These students are designated as "Full-time" or "Part-time" by the Faculty of Graduate Studies and Research according to their workload of courses and/or research. A more detailed classification of graduate students will be found in §202.4 of the Graduate Studies and Research section of this Calendar.

2.2.2 Classification of Undergraduate Students

(1) **Degree, Diploma, or Certificate Program Students** are those who are registered in a program leading to a degree, diploma, or certificate granted by the University of Alberta.

(2) **Probationary Students** are students who have been admitted (or permitted to continue) in a Faculty on a probationary basis, because their previous academic record is either deficient in some respect, below the standard ordinarily required, or difficult to assess. Normally, if such students fail to meet the conditions stipulated within the time limit imposed, they will not be allowed to proceed further in their program.

(3) **Special Students** are those who have been permitted to register in one or more courses which are not being taken for credit towards a degree or diploma at this or any other institution.

(4) **Unclassified Students** are students registered in selected credit courses but who are not committed or admitted to a degree or diploma program.

(5) **Visiting Students** are bona fide students of other universities or colleges who have been permitted to take one or more courses for transfer of credit to their own institutions which have agreed in advance to such an arrangement.

12.2.3 Auditors

Auditors are not necessarily admitted students and are not registered for credit, but are attending one or more courses under the following conditions:

(1) Since final permission to audit a course cannot be given until it is known that all students registered for credit have been accommodated, registrations as auditors will not be accepted until the sixth class day of the term and must be submitted prior to the ninth class day of the term.

(2) The auditor registration form can be obtained from the Registrar's Office or Faculty office.

(3) The permission of the course section instructor must be obtained and the form submitted to the Registrar's Office.

(4) The Registrar's Office will determine if space exists in the course section and, if space is available, process the registration.

Note: Obtaining the instructor's permission does not guarantee registration in the course section if it is determined that the course section is full.

(5) Courses audited in this manner will not be considered as meeting prerequisite, admission, or course requirements for any University degree program.

(6) Individuals auditing courses shall limit their participation in the class to that deemed appropriate by the instructor.

(7) Any person who is registered as a full-time or part-time student may also seek permission to audit a course by securing the approval of the instructor and the dean of the student's Faculty.

(8) The imposition of attendance requirements for auditors is a matter of Faculty self-determination. Auditors should seek clarification of this information from the Faculty offering the course when they register.

(9) Withdrawal from an audited course will result in a grade of 'AW', as will failure to attend where attendance is a course requirement.

12.2.4 Intramural and Extramural Students

(1) **Intramural Students** are those who are attending the University of Alberta at Edmonton or any of its off-campus centres.

(2) **Extramural Students** are those who, although not attending the University of Alberta at Edmonton or any of its off-campus centres, are permitted to take one or more courses by correspondence or directed study. This privilege may be granted by a Faculty in special circumstances.

12.2.5 Students in the Faculty of Extension

Faculty of Extension students are those registered in any of that Faculty's courses which may or may not lead to certificate credit.

12.3 Intersession

During its Intersession in Edmonton, the University of Alberta offers a wide selection of courses during the Spring-Term and Summer-Term for the convenience of students who are unable to attend the regular Winter Session, and for continuing students who wish to supplement their regular programs. Intersession calendars are available in February.

Further information can be obtained by contacting the Special Sessions Office at 492-3752.

12.4 Off-Campus Credit Program

For students living outside the Edmonton area, there are courses offered in the September to April period through the Off-Campus Credit Program at a number of centres throughout Central and Northern Alberta. Included in these are full-time, general first- and second-year programs at Slave Lake and Spruce Grove. These programs are offered in cooperation with Athabasca University.

Further information can be obtained by contacting the Special Sessions Office at 492-3752.

13 Admission

13.1 Admission to Graduate Degree Programs

General admission requirements for the Faculty of Graduate Studies and Research will be found in §202 of this Calendar. Additional requirements, if any, for a particular graduate program will be found in the description of the program in §204.

13.2 Admission to Undergraduate Degree Programs

13.2.1 Categories of Admission

There are two major categories of admission for entry into an undergraduate degree program at the University of Alberta:

- as a **Matriculated** applicant
- as a **Non-matriculated** applicant (NMA)

(1) Matriculated Applicants

"Matriculation" is defined as:

"The achievement of a minimum level of academic preparation that would allow a prospective student to undertake and successfully complete a particular university degree program."

Matriculation can be achieved in a number of ways, as outlined below:

a. From High School: See §§13.3-13.5.

b. On Transfer from a Postsecondary Institution:See §13.9.

c. Via a "Letter of Recommendation": See §13.9.

(2) Non-Matriculated Applicants

Special consideration is given to mature applicants who have not met normal matriculation requirements. Please refer to §13.8.

Note: Prospective students who are disabled and who are seeking admission should consult §18.1.8 of this Calendar.

13.2.2 English Language Proficiency Requirements

English is the primary language of instruction in all Faculties except Faculté Saint-Jean, where French is the primary language. Therefore, all applicants to undergraduate Faculties other than Faculté Saint-Jean must possess an adequate knowledge of written and spoken English as a prerequisite to admission. For example, non-matriculated applicants and Unclassified Program students must comply with the requirement along with other applicants.

Applicants to Faculté Saint-Jean need not demonstrate proficiency in English prior to admission being granted. However, they must demonstrate proficiency in English before they may be granted a degree from this institution. Faculté Saint-Jean students from the BEd/BSc Combined program are not required to demonstrate their proficiency in English.

Regardless of country of origin or of citizenship status, all applicants to all undergraduate degree programs, except for Faculté Saint-Jean, will be required to demonstrate proficiency in the English language prior to admission. This demonstration may take any one of several forms:

(1) Six full years of education in English in Canada or the equivalent in another country where English is the principal language. Such education must include the Alberta Grade 12, or equivalent level, and can be in a combination of secondary and postsecondary training.

(2) Successful completion of the equivalent of six years of full-time instruction in a school/institution in Canada in which the major language of instruction is other than English, but where the level of English proficiency required for graduation is equivalent to that in English language schools/institutions in Canada.

(3) A grade of 80% or better on the diploma examination portion (only) of the Alberta English 30 course, or a grade of 6 or 7 on the International Baccalaureate Higher Level English course, or a grade of 5 on the Advanced Placement English (Language Composition: Literature and Composition) course.

(4) Graduation from a degree program offered by an accredited university at which English is the primary language of instruction and in a country where English is the principal language.

(5) A score of at least 580 on the Test of English as a Foreign Language (TOEFL), or a score of at least 90 on the Michigan English Assessment Battery (MELAB). The TOEFL results must include a score of at least 50 on each of the three components.

Note A: Authority to hear petitions and to waive the requirement for undergraduate applicants to write the TOEFL resides with the Registrar, acting on behalf of the Faculties. Exemptions will be based on assessments of the applicant's English language proficiency as evidenced by a written petition and a personal interview. Please direct enquiries and petitions to the Associate Registrar (Admissions), Office of the Registrar.

Note B: Further information on TOEFL is available from Examinations and Timetabling, Office of the Registrar, Room 120 Administration Building. TOEFL application forms are available from the Student Access Centre, Office of the Registrar, Main Floor - Administration Building; or by writing directly to Educational Testing Service, PO Box 6151, Princeton, New Jersey, U.S.A., 08541-6151.

Test of Spoken English

Applicants to Dental Hygiene, Dentistry (DDS degree), Home Economics, Medicine, Medical Laboratory Science, and Physical Therapy who are normally required to submit a satisfactory TOEFL score must also submit a Test of Spoken English (TSE) score of 200 or better. Information and registration forms for TSE are available from Examination and Timetabling, Office of the Registrar.

Specific Faculty Requirements

Some Faculties may require greater strength in English communicative skills than that which is required for other programs. These additional requirements are detailed in the various Faculty regulations sections of this Calendar. In applying to such Faculties the applicant must satisfy these additional language requirements as well as meet the general requirements outlined above.

13.2.3 Conditional Offers of Admission to High School Students

Conditional offers of admission are given annually before the completion of the final year of high school to

students who have achieved satisfactory standing in their first semester/first term. Students are encouraged to apply as soon as they have received their first semester/first term results and to note these results on the application form. Once a conditional offer of admission has been made, a student is then eligible to access the telephone registration system.

If a student fails to complete his or her final high school year satisfactorily, the conditional offer of admission will be withdrawn.

13.2.4 Limitations on Enrollment

The University of Alberta is a limited enrollment institution, and as such, has placed a ceiling on the number of students accepted each year into all programs. Up to 85% of the places in our programs are normally reserved for Alberta residents*. For the remaining places, the University's goal is to make 5% available to international students (Student Visitors), and 10% to other Canadians, providing that no non-resident of Alberta is admitted who is less qualified than any Alberta resident who is denied admission.

The competition for a place in the following programs is especially keen:

- Agriculture and Forestry (BSc in Agricultural Engineering/ Agricultural Business Management programs only)
- Arts (BFA Drama and BA (Criminology) programs only)
- Business
- Dental Hygiene
- Dentistry
- Engineering
- Law
- Medical Laboratory Science
- Medicine
- Nursing
- Pharmacy and Pharmaceutical Sciences
- Physical Education and Recreation
- Rehabilitation Medicine
- Science (Computer Science, Honors, and Specialization programs only).

Upon notification of acceptance, successful applicants to the above noted programs may be required to confirm their intention to register by submitting a non-refundable deposit within a specified time. The deposit will be credited toward payment of tuition upon completion of registration.

*A resident of Alberta is defined as a Canadian Citizen or Permanent Resident (Landed Immigrant) who has been domiciled in the Province of Alberta, or the Yukon or Northwest Territories for at least one continuous year immediately prior to the first day of classes of the session in which admission is sought.

The one year residence period shall not be considered broken where the Admissions Committee is satisfied that the applicant was temporarily out of Province on vacation, in short-term employment, or as a full-time student.

13.3 Admission from High School

13.3.1 General Requirements from High School Applicants

In general, admission to undergraduate programs is based on the completion of five appropriate Grade XII subjects at the 30-level (or their equivalent), including English 30. No student with an average of less than 70% will be considered for admission (see exception, Faculté Saint-Jean §13.4.16). As there are limits on space in our undergraduate programs, preference will be given to applicants with the best qualifications.

13.3.2 Classification of Matriculation Subjects

Acceptable Alberta academic Grade XII subjects, other than English 30, have been placed in four groups, as follows:

Group A (Humanities)
Social Studies 30
30-level Language other than English.
Additional 30-level Language other than English

Note A: Any one of French 21, 20S, 20N, 30S, 30N, and 31, French Language Arts 20 and 30, Français 20 and 30, and Langue et Littérature 20 and 30, are considered to be equivalent to French 30 for admission purposes. In the case of French Language Arts 30, Français 30, and Langue et Littérature 30, advanced placement may be granted upon application.

Note B: German 30 or 31, Italian 30, Latin 30, Spanish 30, Ukrainian 30, Ukrainian Language Arts 20 or 30, or the approved locally developed courses Arabic 35, Hungarian 35, Swedish 35, Greek 35, German Literature 35, Polish 35, Spanish 35, Cree 35, Chinese 35, Japanese 35, and Hebrew 35 meet the Language other than English requirement.

Note C: Applicants wishing to present a language other than one of those presented at the Grade XII level in Alberta should contact the Admissions Division, Office of the Registrar.

Note D: Students seeking admission to the Business, Dental Hygiene, and Physical Therapy programs may present two of the following subjects in place of a Group A subject, provided Social Studies 30 is not also presented:
Experimental Psychology 30
World Religions 30
World Geography 30
Philosophies of Man 30
Microeconomics 30
Macroeconomics 30

Group B (Fine Arts)
Art 30
Art 31
Commercial Art 35
Visual Communications 32A, B, or C
Drama 30
Music 30
Music 31
Performing Arts 35A, B, or C

Note: Equivalents of Music 30 or 31: Western Board of Music, Grade VIII Practical and Grade IV Theory; Royal Conservatory of Music of Toronto, Grade VIII Practical, Grade II Theory, and Grade III Harmony. Documents must be presented to the Alberta Department of Education for evaluation.

Group C (Sciences)
Biology 30
Chemistry 30
Mathematics 30
Mathematics 31
Physics 30

Group D (Optional Subjects)
Students using a Group D subject for admission must present either one 5-credit D subject or any combination of two 3-credit D subjects.
Experimental Psychology 30
World Religions 30
World Geography 30
Philosophies of Man 30
Microeconomics 30
Macroeconomics 30
Clothing and Textiles 30
Food Studies 30
Personal Living Skills 30
Accounting 30
Law 30
Computer Processing 30
Basic Business 30
Business Education 30
Industrial Education 30A
Industrial Education 30B
Selected courses in Vocational Education 32
Religious Studies 35 (for approved Alberta Schools)

Note: The above-listed Grade XII subjects are based on the Alberta Department of Education curriculum and nomenclature. Prospective students from other provinces and territories should request the Interprovincial High School Equivalence Guide from the Student Access Centre, Office of the Registrar, University of Alberta, Edmonton, T6G 2M7.

13.4 Admission Requirements By Faculty

13.4.1 Agriculture and Forestry

I. BSc Programs in Agriculture, Food Science, and Forestry

Matriculation Subjects:
(1) English 30
(2) Chemistry 30
(3) Biology 30
(4) Mathematics 30
(5) Subject from Group A, B, C, or D

II. BSc Program in Agricultural Engineering

See §13.4.6 (BSc in Engineering) for admission requirements.

III. BSc Program in Agricultural Business Management

Minimum Requirements:
Successful completion of the first year of the BSc Agriculture program with a GPA of at least 6.9.

IV. Pre-Veterinary Medicine Program

The pre-Veterinary Medicine program at the University of Alberta is designed to qualify students for admissi to the Doctor of Veterinary Medicine program at t University of Saskatchewan.

Matriculation Subjects:
(1) English 30
(2) Mathematics 30
(3) Biology 30
(4) Chemistry 30
(5) Physics 30

13.4.2 Arts

I. BA, BA (Canadian Studies), BA (East Asian Studies)

Matriculation Subjects:
(1) English 30
(2) 30-level Language other than English
(3) Subject from Group A or B (Social Studies 30 recommended)
(4) Subject from Group C
(5) Subject from Group A or C (or B, if a Group B subje is not used for (3) above).

Note A: Students intending to major in Mathematics Political Science, or Psychology are strongly recommende to offer Mathematics 30 as their fourth required subject.

Note B: Students intending to major in Economics ar strongly recommended to offer both Mathematics 30 and 31

Note C: Students intending to enter the BA (Honors in Mathematics are advised that Mathematics 31 is re quired.

Note D: Acceptance of a Native Language for Matric ulation in the Faculty of Arts — The Faculty of Arts accept proficiency in one of the Native languages as meeting the requirements of a language other than English. Proficien cy is measured either by a test, administered by the University, if such can be arranged, or by boards o examiners, appointed by the University.

Candidates, having passed the required test of a Native language, have their averages calculated upon the remaining four matriculation subjects, or if a Fine Arts course is presented (in which candidates must receive an "A" standing), on the remaining three.

II. BA with Honors

Minimum Requirements:
Applicants must successfully complete one full year of an approved BA program, or its equivalent, at an accredited institution. Usually students must achieve an overall GPA of 6.5 to 7.0, with an average of 7.0 in courses in the area of specialization.

III. BA (Criminology)

Minimum Requirements:
Successful completion of the five matriculation subjects as required for the BA (see above), plus the successful completion of the first 30 units of course weight of the University of Alberta BA, or its equivalent at an accredited institution. Students are strongly advised to include English 101, Sociology 100, Psychology 104 and 105, and a Language other than English in their first year.

Other Requirements:
(1) A minimum GPA of 6.0 on the most recent 30 units of course weight.
(2) Two letters of reference attesting to ability and suitability for employment in the criminal justice system.
(3) A resumé of personal data, particularly volunteer or work experience in the criminal justice system.
(4) A written statement of career objectives.
(5) Applicants are required to attend an interview.

IV. BFA (Art and Design) Program

Minimum Requirements:
(1) English 30
(2) to (5) Any four of: Social Studies 30, a 30-level Language other than English, Biology 30, Chemistry 30, Physics 30, Mathematics 30 or 31, one approved Fine Arts subject.

Note A: Because enrollment is necessarily limited and because the studies in this interpretive-creative field involve highly specialized training, candidates will be required to satisfy a Selection Committee that they have the necessary ability and degree of commitment to undertake the program. The Selection Committee will base its

ecision upon the evidence derived from an assessment f any course that may have been taken and work done by he candidate, and the testimony of his or her teachers. ssessment may include a special examination and an nterview.

Note B: As the submission of a portfolio is necessary, andidates are encouraged to apply as early as January 1. Since the assessment of portfolios takes place in the eriod May 1 to June 30, portfolios must be received not ater than May 1.

Note C: Enquiries regarding the detailed artistic requirements for admission to this program should be directed n the first instance to: the Department of Art and Design, University of Alberta, Edmonton, Alberta, T6G 2C9; Telephone (403) 492-3261.

V. BFA (Drama) Program in Acting

Minimum Requirements:

(1) Successful completion of one year of an approved BA Program (or its equivalent) at an accredited institution;
OR
successful completion of two years (60 units of course weight) of a non-BA degree program at an accredited institution.
(2) Successful completion of audition requirements.

Note A: The nature of the study of acting is such that students should ideally possess some knowledge and understanding of the liberal arts. While degree programs offering concentration in areas other than the liberal arts, (e.g, Science, Business, etc.) will be evaluated without prejudice to the applicant, university credits in Humanities, Social Sciences, and Fine Arts provide a more satisfactory background for the study of acting.

Note B: Because enrollment is necessarily limited and because the studies in this interpretive-creative field involve highly specialized training, candidates will be required to satisfy a Selection Committee that they have the necessary ability and degree of commitment to undertake the program. The Selection Committee will base its decision upon the evidence derived from an assessment of any courses in drama that may have been taken by the candidates, the testimony of their teachers, experience in dramatic work, and an interview and audition at a centre to be arranged.

Note C: Candidates must apply to the Department of Drama not later than January 11 for an audition. Auditions are normally conducted outside Alberta in mid-February, and following that period in Edmonton. Application to the University should be made subsequent to successful completion of the audition and before June 1.

Note D: Enquiries regarding the artistic requirements for admission to this program should be directed in the first instance to: Department of Drama, University of Alberta, Edmonton, Alberta, T6G 2C9; Telephone (403) 492-2271.

Note E: The successful completion of one year of a BA or two years of another degree program at an accredited institution guarantees waiver of relative or absolute matriculation deficiency except where the deficiency is in English 30 or its equivalent.

VI. BFA (Drama) Program in Design

Minimum Requirements:

(1) Successful completion of a minimum of 30 units of course weight of an approved BA Program (or its equivalent) at an accredited institution;
OR
Successful completion of two years (60 units of course weight) of a non-BA degree program at an accredited institution.
(2) Successful completion of portfolio and submission of an assigned design project.

Note A: The nature of the study of Design is such that students should ideally possess some knowledge and understanding of the Liberal Arts. While Degree Programs offering concentration in areas other than the Liberal Arts (eg. Science, Engineering, etc.), will be evaluated without prejudice to the applicant, university credits in Humanities, Social Sciences, and Fine Arts provide a more satisfactory background for the study of Design.

Note B: Because enrollment is necessarily limited and because the studies in this interpretive/creative field involve highly specialized training, candidates will be required to satisfy a Selection Committee that they have the necessary ability, artistic skills and commitment to undertake the program. The Selection Committee will base its decision upon an assessment of the candidate's portfolio, submission of an assigned design project, testimony of three referees, and an interview (when feasible).

Note C: A Portfolio should consist of any evidence of the candidate's skills in visual communication (eg. drawing, painting, drafting, photography, arts and crafts, graphic arts).

Note D: Candidates must contact the Department of Drama, in writing, not later than April 1. (Early application is encouraged.) Application to the University should be made subsequent to successful completion of the selection process and before June 1.

Note E: Enquiries regarding the professional requirements for admission to this program should be directed in the first instance to: Department of Drama, 3-146 Fine Arts Centre, University of Alberta, Edmonton, Alberta, T6G 2C9; Telephone (403) 492-2271.

Note F: Applicants who have successfully completed the minimum 30 units of course weight of an approved BA Program, or two years (60 units of course weight) of another degree program at an approved institution, must demonstrate to the satisfaction of the Faculty why they should be allowed waiver of matriculation deficiencies. (English 30 or its equivalent cannot be waived.)

Artistic Requirements:

Every prospective BFA (Drama) Design student must submit a portfolio which indicates his or her ability. We will consider anything the applicant considers interesting, exciting, or appropriate (i.e.: painting, drawing, or photos of craftwork or high school drama work).

The Selection Committee encourages every applicant to come for an interview so that he or she can view the facilities, meet the instructors, and gain a first hand impression of the day-to-day workings of the Drama Department.

Those students who live in other parts of Canada and wish to know more about a possible interview should write to: Department of Drama, University of Alberta, Edmonton, Alberta, T6G 2C9; Telephone: (403) 492-2271.

VII. BMus Program

Matriculation Subjects:

(1) English 30
(2) 30-level language other than English
(3) to (5) Any three of: Social Studies 30, a second 30-level Language other than English, Biology 30, Chemistry 30, Physics 30, Mathematics 30 or 31, one approved Fine Arts subject.

Other requirements:

(1) Audition
(2) Theory Placement Exam
(3) Aural Skills Test

Note A: Because enrollment is necessarily limited and because the study in this interpretive-creative field involves highly specialized education, applicants will be required to demonstrate an adequate measure of musical ability to begin study in the degree program. An audition committee will base its admission recommendation upon consideration of applicants' musical background and goals as discussed during the audition, which will include musical performance. The Department's admission recommendation to the Faculty of Arts will take into account the report of the audition committee as well as the results of departmentally administered aural and music rudiments examinations.

Note B: Candidates are encouraged to apply as early as January 1, even though applications will be received until June 1. Candidates are required to apply to the Department of Music for an admission audition prior to May 15.

Note C: Enquiries regarding the artistic requirements for admission to this program should be directed in the first instance to: the Department of Music, University of Alberta, Edmonton, Alberta, T6G 2C9; Telephone (403) 492-3263.

13.4.3 Business

BCom Program

Matriculation Subjects:

(1) English 30
(2) Mathematics 30
(3) One of: Biology 30, Chemistry 30, or Physics 30
(4) Subject from Group A (Social Studies 30 recommended)
(5) Subject from Group A, B, or C

13.4.4 Dentistry

I. Dental Hygiene Diploma

Matriculation Subjects:

(1) English 30
(2) Chemistry 30
(3) Biology 30
(4) Subject from Group A or C
(5) Subject from Group A or C

Note A: Two subjects from Group A are acceptable provided that they are not both Languages other than English.

Note B: Mathematics 33 will be accepted as one of the optional subjects, provided Mathematics 30 is not also presented. Beginning in September 1992, however, Mathematics 33 will not be accepted for admission.

Note C: Further information is given in §62.1.4 of this Calendar.

II. Doctor of Dental Surgery Program

Minimum Requirements:

Satisfactory completion of at least two full years (i.e.: 60 units of course weight) of university work after high school matriculation, including full-courses in Inorganic Chemistry, Organic Chemistry, Physics, and Biology. (30 units of course weight must be taken during one academic year.) In general, consideration for admission will be given to those students who meet the minimum criteria established by the admissions committee at the time of selection. All applicants will be required to take the Canadian Dental Association Aptitude Test. A personal interview is also a requirement for admission. For further details see §62.1 of this Calendar.

13.4.5 Education

I. BEd Programs
Year I — Elementary Education
Secondary Education
Industrial Arts
Vocational Education

Matriculation Subjects:

(1) English 30 (with a grade of at least 60%)
(2) Subject from Group A or C
(3) Subject from Group A or C
(4) Subject from Group A or C
(5) Subject from Group A, B, C, or D

Other Requirements:

Speech Screen

All students entering the Faculty expecting to complete teacher certification requirements must:

(1) Complete the speech screen during the first term of registration as a full-time student in the Faculty. Students who do not comply with this regulation will not be permitted to register again for Intersession or Winter Session until the speech screen has been completed.
(2) Continue working toward improvement as specified by the Speech Clinic Director until clearance is received.
(3) Secure speech clearance as a prerequisite to Phase III of the practicum requirement, i.e., any one of ED PR 330, 352, 354, 355, 356, 357, 358, 359, 370. (Students are encouraged to complete the speech clearance procedure prior to Phase II practicum.)

Note A: Applicants for the Secondary Education Route: Applicants are advised to present those Grade XII subjects basic to the subject area in which they plan to specialize.

Note B: Additional Subject Requirements for Vocational Education. In addition to the above noted academic admission requirements, the student must present evidence of current competency in one of the following subject areas:

Autobody, Automotives, Beauty Culture, Building Construction, Business, Drafting, Electricity, Electronics, Food Preparation, Graphic Arts, Health Services, Horticulture, Machine Shop, Piping, Sheet Metal, Visual Communications, and Welding. (Note: Admission may be limited within some subject areas.)

Normally, documentation of at least a four-year training period, appropriate Journeyman's Certificate, or equivalent, and letters of reference are required.

Equivalency is determined by the following: relevant documents, letters of reference, and, in the case of Business applicants, a documented typing speed of not less than 55 words net per minute (on a five-minute typing test with not more than eight errors).

II. BEd Programs
Year 2 — Industrial Arts
Vocational Education
Year 3 — Elementary Education
Secondary Education

Admission to Year 2 of the Industrial Arts and Vocational Education Routes, and admission to Year 3 of the Elementary and Secondary Education routes, is competitive and will be granted to the most qualified applicants based primarily on CGPA (cumulative grade point average).

Other requirements:

Applicants are also required to provide documented previous experience with children or youth, two letters of reference, and a focused written statement. A personal interview may be required.

Note: See §72.1.2 for further details.

Aboriginal Students

The Faculty of Education is committed to the encouragement of Aboriginal students' study toward the Bachelor of Education degree. The Faculty of Education recognizes that Aboriginal applicants (including status and non-status Indians, Inuit, and Metis) have traditionally been underrepresented in the teaching field, and in order to assist more

Aboriginal students to achieve education degrees, the Admissions Committee will consider naming an additional 20 qualified applicants over and above the Aboriginal students who may be admitted in the regular Faculty quota. Aboriginal students who wish to be considered for these 20 places must attain the minimum admission requirements of their chosen route.

III. BEd/BSc Combined Program

Matriculation Subjects:
(1) English 30 (with grade of at least 60%)
(2) Mathematics 30
(3) and (4) Two of: Biology 30, Chemistry 30, Physics 30, or Mathematics 31
(5) A subject from Group A, B, C, or D (Group C subject recommended)

IV. BPE/BEd Combined Program

See §13.4.14(III)

V. BEd After Degree Program

Admission to the BEd After Degree program is based upon the presentation of an approved degree which contains preparation relevant to teaching in the elementary or secondary school. For further information see §73.8 of this Calendar.

13.4.6 Engineering

BSc Program in Engineering

Matriculation Subjects
(1) English 30
(2) Chemistry 30
(3) Mathematics 30
(4) Mathematics 31
(5) Physics 30

13.4.7 Home Economics

I. BSc Program in Clothing and Textiles

Matriculation Subjects:
(1) English 30
(2) Chemistry 30
(3) Mathematics 30
(4) Subject from Group A or C (Social Studies 30 recommended)
(5) Subject from Group A, B, or C

See note below.

II. BSc Program in Family Studies

Matriculation Subjects:

(1) **General Home Economics Route:**
English 30
Chemistry 30
Mathematics 30
Subject from Group A or C (Social Studies 30 recommended)
Subject from Group A, B, or C

(2) **General Family Studies Route:**
English 30
Chemistry 30
Mathematics 30
Biology 30
Subject from Group A, or B, or C

See note below.

III. BSc Program in Foods and Nutrition

Matriculation Subjects:
(1) English 30
(2) Chemistry 30
(3) Mathematics 30
(4) Biology 30
(5) Subject from Group A, B, or C

See note below.

Note: For all programs above, Food Studies 30 or Clothing and Textiles 30 may be presented in place of one subject from Group B. For the Clothing and Textiles programs, Clothing and Textiles 30 is recommended. Students entering this program without the equivalent of Clothing and Textiles 20 will be expected to demonstrate certain competencies before entering CL TX 301. For further information contact the Administrative Assistant, Room 115, Home Economics Building.

13.4.8 Law

LLB Program

Minimum Requirements:

To be considered for admission to the LLB program, a candidate must normally have completed a degree recognized by the University of Alberta. For this purpose, successful completion of three years of a four-year Bachelor of Arts or Science program at a recognized Alberta university is acceptable. In special circumstances, the Committee will consider applications from prospective students who do not possess a degree but have completed not less than two years of postsecondary studies that would be accepted for credit at a university in Alberta. In this instance candidates must present evidence of outstanding academic ability.

All applicants are required to complete the Law School Admissions Test (LSAT) and submit a resumé.

For further information regarding admission, consult §102 of this Calendar.

For information regarding the combined MBA/LLB program or MPM/LLB program see §101.3(4), 101.3(5), 103.3.2, 103.3.3 and 204.43.3 of this Calendar.

13.4.9 Library and Information Studies

MLIS Program

For admission to the MLIS Program refer to §112.2.1 and §204.44 of this Calendar.

13.4.10 Medicine

I. MD Program

(1) **Academic Requirements**: All students considering Medicine must register in a degree program and maintain good standing in that program. Irrespective of the degree program, the student must take courses in the following core subjects:
a. Six units of course weight in each of:
Inorganic Chemistry
Organic Chemistry
Physics
Biology (including BOT 199 and ZOOL 120 at the University of Alberta)
English
b. Three units of course weight in:
Statistics

Note: BIOL 110, GENET 165, MICRB 101, PHYS 169 and 171, and any Astronomy course at the University of Alberta will not be recognized by the Faculty of Medicine as core subjects for admission purposes.

Students are encouraged to obtain a baccalaureate degree prior to admission, but may apply after two or three years in a degree program. To be considered for early selection, a student must have all the prerequisites as well as exceptional academic standing (minimum GPA of 8.0) and personal qualifications. It is recommended that students who wish to be considered for early selection to the Faculty of Medicine be enrolled in an Honors program. Students should ensure that the above prerequisites are completed and that at least two years consist of a minimum of 30 units of course weight per year.

(2) **Scholastic Standing**: Consideration for admission will be given only to students who have obtained an over-all average of at least 7.0 in at least two of the preceding years of full-time (30 units of course weight) university study.

(3) **Personal Requirements**: While admission to the MD program is granted mainly on the basis of academic performance, the lack of essential personal qualities in an applicant may be deemed sufficient cause for refusal of admission.

(4) **Interview:** Applicants will be required to present themselves for a personal interview at the discretion of the Admissions Committee. Closed letters of reference and a personal descriptive letter may also be required, again at the discretion of the Admissions Committee. Failure to provide these by March 1st, may result in closure of the applicant's file.

(5) **Residence Requirement**: Priority for admission is given to students who are Canadian citizens or Permanent Residents (Landed Immigrants) and residents of Alberta. As stated in §13.1.2 of this Calendar a limited number of places are made available to applicants who do not meet these requirements.

(6) **Medical College Admission Test**: All applicants are required to take the New Medical College Admission Test. This test is conducted in Edmonton by the Examinations and Timetabling Division of the Registrar's Office in the spring and fall of each year. An application to take this test must be sent directly to the American College Testing Program, P.O. Box 414, Iowa City, Iowa 52243, U.S.A. four weeks before the date of the test. Details and application forms may be obtained from the Office of the Associate Dean (Student Affairs), 2J211 WC Mackenzie Health Sciences Centre or from the Student Access Centre, Main Floor, Administration Building. The applicant must direct the American College Testing Program (MCAT) to forward results directly to the Faculty of Medicine or deliver these results by mail or personally to the Admission Office by December 31. Failure to do so will result in closure of the applicant's file.

(7) **Test of Spoken English (TSE)**: All applicants who are required to submit the results of the TOEFL must also submit the results of the TSE with a minimum score of 200. For further information contact the Examinations and Timetabling Division, Office of the Registrar, 120 Administration Building, University of Alberta.

(8) **Application Deadlines**: Students should make application to the Office of the Registrar by November 1 of the year prior to that for which admission is sought. Late applications cannot be accepted.

(9) **Physical Examination**: Students admitted to the MD program must present a certificate of satisfactory medical examination from a physician of the University Health Services.

(10) **Length of Program:** Applicants should be aware of the total length of time required to obtain a medical degree and following this a license to practice. The usual time is a minimum of two years of pre-medical, four years of medical studies at which point the MD degree is awarded, and then two years of prelicensure internship.

(11) **Deposit**: Applicants will be advised of the decision of the Admissions Committee in early July. Successful applicants, upon acceptance of a place in the first-year class, are required to send a deposit to the Comptroller of the University of Alberta. This deposit will be credited to tuition fees when the student registers. Should a candidate withdraw after accepting a position this deposit will be forfeited.

(12) **Native Applicants:**
a. In addition to the regular quota positions, up to two additional positions per year are available in the MD program for qualified students of Native ancestry within the meaning of the Constitutional Act of 1982, Section 35, Part 2.
b. Native students interested in this program are encouraged to contact the Coordinator, Native Health Careers, Faculty of Medicine, for individual counselling and career planning.

(13) The attention of applicants is drawn to the regulations set out in §13.2.3 of this Calendar.

II. BSc Program in Medical Laboratory Science

Matriculation Subjects
(1) English 30
(2) Chemistry 30
(3) Biology 30
(4) One of: Physics 30 or Mathematics 30
(5) Subject from Group A, C, or D

Note A: Interview: An applicant is required to have a personal interview (if living within 400 km) or to submit acceptable references before the application can be considered complete. Suitable personality, communication skills, general health, and knowledge of the field are also considered.

Note B: English Language Proficiency: Applicants who are normally required to submit a satisfactory TOEFL score must also submit a Test of Spoken English (TSE) score of 200 or better.

13.4.11 Native Studies

BA (Native Studies)

Matriculation Subjects
(1) English 30
(2) 30-level Language other than English
(3) Subject from Group A or B (Social Studies 30 recommended)
(4) Subject from Group C
(5) Subject from Group A, C, or D (or B, if Group B subject is not used for 3 above)

Note A: Students should be aware that Mathematics 30 is a prerequisite to many university courses and is strongly recommended.

Note B: Students who wish to present a native language to fulfill the Language Other than English requirement should contact the School prior to admission for further information about the standards required and testing.

Note C: Students who are not able to present a language other than English may be admitted on the basis of five other appropriate Grade XII subjects but will be required to take an introductory (Grade XII equivalent) language course in their first year. This course will be extra to their regular program. Satisfactory completion of this course in the first year is required before the student can continue in the second year of the program.

13.4.12 Nursing

I. BScN Program

Matriculation Subjects:
(1) English 30
(2) Chemistry 30
(3) Biology 30
(4) One of: Mathematics 30 or 31, or Physics 30
(5) Subject from Group A, B, C, or D

Other Requirements:
Upon receipt of the application form, the Registrar's Office will send every applicant three reference forms and a questionnaire with instructions regarding their use. The reference forms and the questionnaire must be completed and returned to the Faculty by May 15.

II. BScN Program for Registered Nurses

Matriculation Subjects:
(1) English 30
(2) Chemistry 30
(3) Biology 30
(4) One of: Mathematics 30 or 31, or Physics 30
(5) Subject from Group A, B, C, or D

Postsecondary Subject Requirements:
(1) Completion of six units of course weight in an Introductory Psychology course.
(2) Completion of six units of course weight in an Introductory Physiology course.

Other Requirements:
(1) Application for Admission or Application for Readmission Form;
(2) Two letters of reference;
(3) Graduate Nurse Information Form;
(4) Official transcripts of:
   a. high school education,
   b. diploma nursing program,
   c. any other postsecondary work completed;
(5) Proof of current active registration as described in §142.1.3, Note B below.
(6) Record of immunization status.

Note A: Applicants must be Registered Nurses from approved schools of nursing, and must provide evidence of eligibility for registration in the AARN or evidence of current registration or licensure in another Canadian jurisdiction. Foreign students must provide evidence of (a) current registration in another jurisdiction, and (b) graduation from a general nursing program considered equivalent by the Alberta Association of Registered Nurses to an approved School of Nursing in Alberta at the time the program was taken.

Note B: Deadlines for completion of application files are February 15 and May 15. Those files completed before February 15 will be considered by the Admission Committee shortly after that date; those completed later will be considered shortly after May 15. A completed application file includes all of the following listed in (1) to (6) above.

Note C: Please see §142.1 of this Calendar for further information.

13.4.13 Faculty of Pharmacy and Pharmaceutical Sciences

BSc Program in Pharmacy

Minimum Requirements:
A minimum of 30 units of course weight, including courses in Inorganic Chemistry, Organic Chemistry, Calculus, Statistics, and Microbiology. For students attending the University of Alberta the appropriate courses are noted below:

Six units of course weight in each of:
CHEM 100 or 104 or 204
CHEM 160 or 260
ENGL 101
Three units of course weight in each of:
MATH 113 or 114
MICRB 193
STAT 237 or 141
Elective*

*Students who register in the Faculty of Science in order to complete the Pre-Pharmacy Program must choose this elective from among 100-level courses titled Biology, Botany, Entomology, Genetics, Geography, Geology, Psychology, or Zoology in order to meet Faculty of Science requirements.

Other Requirements:
Applicants must submit a letter with their application for admission setting forth their career goals, knowledge of the profession, related experience, and reasons for seeking admission to the Faculty of Pharmacy and Pharmaceutical Sciences.

13.4.14 Faculty of Physical Education and Recreation

I. BA in Recreation Administration

Minimum Requirements:
Successful completion of one full year of university study (i.e.: 30 units of course weight). Courses taken must include courses in Sociology, Psychology, Political Science or Economics, Philosophy, Physical Geography, and 15 units of course weight in optional Arts and Science courses. Please see §162.1.3 of this Calendar for further information.

Note A: Students taking the first-year BA (AR20) program in the Faculty of Arts at the University of Alberta should note specific requirements for the program including the language other than English requirement.

Note B: Alternative to the preprofessional year. If the preprofessional year is not of university study, a student must submit a completed two-year diploma in Recreation and Leisure Studies, or a related field from an accredited public or private college, in order to obtain advanced standing for the preprofessional year.

Note C: For further information see §162.1.3 of this Calendar.

Admission to Year 2 from Red Deer College
Students who are admitted into Year 2 of the program, after having successfully completed a preprofessional year and Year 1 at Red Deer College, must have completed the same course requirements and have met the same promotional standards as those that are required of students enrolled in Year 1 of the program at the University of Alberta. For further information see §162.1.3 of this Calendar.

II. BPE Program

Matriculation Subjects:
(1) English 30
(2) Subject from Group A or C
(3) Subject from Group A or C
(4) Subject from Group C
(5) Subject from Group B, C, D, or Physical Education 30

(Only one Language other than English will be accepted for admission)

Note A: All applicants must complete a personal profile questionnaire as provided by the Department of Physical Education and Sport Studies, and submit a medical report from their personal physician or University Health Services.

Note B: Admission to the BPE program is granted largely on the basis of academic standing; however, satisfactory personal qualities, leadership, good communication skills, and good health are also considered in the selection process. Therefore, a personal interview may be required, and the interview may be used as the basis for refusal of admission.

Note C: Admission will be refused to students who have had to write an inordinate number of examinations. For the purposes of admission, inordinate is defined as three or more examination attempts on any one course or three or more courses used for admission in which the student has attempted two or more examinations.

Note D: Applicants may be required to complete a Faculty fitness test.

III. BPE/BEd Combined Program

Matriculation Subjects:
(1) English 30 (with a grade of at least 60%)
(2) Physical Education 30 or a subject from Group B, C, or D
(3) Subject from Group A or C
(4) Subject from Group A or C
(5) Subject from Group C

Note: The first three years of this program are taken in the Faculty of Physical Education and Recreation. The final two years are taken in the Faculty of Education. Prospective students should note that admission to Year 3 in the Faculty of Education will be on a competitive basis.

13.4.15 Faculty of Rehabilitation Medicine

I. BSc Program in Occupational Therapy

Minimum Requirements:
All applicants to the BScOT program must have satisfactorily completed one year of study (30 units of course weight at the introductory 100-level or above) at a university or college. Courses taken in this preprofessional year must include the following University of Alberta courses, or their equivalents: OCCTH 106* and 107*, PSYCO 104 and 105; and one full laboratory science course.

*These courses are offered during both Winter Session and Intersession, Spring-Term only at the University of Alberta.

Note A: The remaining courses should be selected keeping in mind:
(1) the requirements of the Faculty in which the student is enrolled;
(2) an alternate course of study if application to Occupational Therapy is unsuccessful; and
(3) preparation for future coursework - English, Chemistry, and Physics are strongly recommended.

Note B: While students may complete the preprofessional year in any Faculty, the Faculty of Science is recommended because:
(1) these entrance requirements will ensure a strong science background;
(2) OCCTH 106/107 are accepted for credit toward a BSc (General) degree.

Post-diploma degree completion program.

See §172.1.2 of this Calendar.

II. BSc Program in Physical Therapy

Matriculation Subjects:
(1) English 30
(2) Mathematics 30
(3) Physics 30
(4) Subject from Group A or C (Biology 30 recommended)
(5) Subject from Group A, B, or C (Chemistry 30 recommended)

Note A: Prospective students should note that an interview is required for admission. For further information please refer to §172.1.3 of this Calendar.

Post-diploma degree completion program.

See §172.1.3 of this Calendar.

13.4.16 Faculté Saint-Jean

Students wishing to register in Faculté Saint-Jean must present a minimum average of 70% on five appropriate Grade XII high school subjects, including a minimum grade of 70% in French 30, French 30S, or French 30N, or equivalent; or a minimum average of 65% on five appropriate Grade XII high school subjects, including Français 30, French Language Arts 30, Langue et Littérature 30, or equivalent.

Note A: An applicant presenting five subjects appropriate for admission to the University may be admitted with a deficiency in English 30 which can be cleared during the duration of the program. An applicant with more than one deficiency will not be admissible.

Note B: BEd and BSc applicants are advised to present matriculation subjects that are basic to their intended area of specialization.

Note C: BEd applicants may not present a fifth subject of matriculation from the same field as any of the first four subjects, except where the subject used as one of the first four subjects is a prerequisite or corequisite for the fifth.

Note D: The BEd programs are designed for students wishing to teach in all schools, but particularly in those schools where French is the language of instruction.

I. BA Program (taught in French)

Matriculation Subjects:
(1) French 30 or 31, Français 30, French Language Arts 30, or Langue et Littérature 30
(2) English 30
(3) Subject from Group A or B (Social Studies 30 recommended)
(4) Subject from Group C (Mathematics 30 recommended)
(5) Subject from Group A or C

II. BEd Program (taught in French)

Matriculation Subjects:
(1) French 30 or 31, Français 30, French Language Arts 30, or Langue et Littérature 30
(2) English 30
(3) Subject from Group A or C
(4) Subject from Group A or C
(5) Another Grade XII subject carrying a weight of five credits

III. BEd/BSc Combined Program

Matriculation Subjects:
(1) French 30, 31, Français 30, French Language Arts 30
(2) Mathematics 30, or Langue et Littérature 30
(3) Biology 30
(4) Subject from Group C
(5) Subject from Group C

IV. BSc Program (taught in French)

Matriculation Subjects:
(1) French 30 or 31, Français 30, French Language Arts 30, or Langue et Littérature 30
(2) English 30
(3) Mathematics 30
(4) Subject from Group C
(5) Subject from Group C

Note for Quebec Students: The first year of the general CEGEP program is considered equivalent to Alberta Grade XII. Students with two years of CEGEP may receive advance credit.

13.4.17 Faculty of Science

I. BSc (General) Programs

Matriculation Subjects:
(1) English 30
(2) Mathematics 30
(3) Subject from Group C
(4) Subject from Group C
(5) Subject from Group A or B or C

Note: Because of the large number of programs offered in the Faculty of Science, recommendations regarding choice of optional subjects will be found in §192.2 of this Calendar.

II. BSc (Specialization)

Note A: Students must present an average of 75% on the five appropriate subjects for admission to the Specialization program.

Note B: Students wishing to enter Specialization programs are urged to consult §193.1.2 of this Calendar.

III. BSc (Honors)

Note A: Students must present an average of 80% on the five appropriate subjects for admission to the Honors program.

Note B: Students wishing to enter Honors programs are urged to consult §193.1.1 of this Calendar.

IV. BEd/BSc Combined Program

See §13.4.5 for detailed requirements.

V. Pre-Pharmacy Program

Students who plan to complete the preprofessional requirements for Pharmacy must present the following:

(1) English 30
(2) Mathematics 30
(3) Chemistry 30
(4) Biology 30
(5) Subject from Group A or B or C

VI. Preprofessional Programs in Dentistry, Medicine, and Optometry

Students who plan to complete the preprofessional requirements for these programs must present the following:

(1) English 30
(2) Mathematics 30
(3) Chemistry 30
(4) Physics 30
(5) Biology 30

13.4.18 International Baccalaureate Students

I. Admission

Admission to the University of Alberta, for high school students who are enrolled in the IB program, will be based on the **higher** of: either the high school grade or the IB grade. In those cases where the IB grades are not available at the time of admission selections the high school grade will be used.

The grade conversion scale that will be used to determine admission is as follows:

IB Grade		*Alberta % Equivalent*
7		97%
6		84%
5		77%
4		65%
3		55%
2		45%
1	less than	45%

II. Advanced Standing for IB Students

Students who are enrolled in the International Baccalaureate program can receive transfer credit or advance placement in selected IB courses. The regulations are:

(1) Advanced Standing (Transfer Credit or Advanced Placement see also §13.7.4) in approved courses is automatically awarded for an IB grade of 6 or 7 only. (A list of approved courses is outlined in the chart below.) **Note**: An offical IB transcript is required as part of this evaluation process.

(2) The grade conversion scale that will be used to determine transfer credit is as follows:

IB Grade	*U of A Grade Point*
7	9
6	8

(3) Students who are granted the IB Diploma, and obtain a mark of zero or greater in **each** of the Extended Essay and Theory of Knowledge, will be granted transfer credit for three units of course weight in an open elective course at the 100-level.

I.B. Courses Approved for Advanced Standing

International Baccalaureate Courses	*University of Alberta Equivalent*
Biology (higher level)	BIOL 100 (3)
English (higher level)	Advanced Placement (for Comparative Literature only)
German A (higher level)	GERM 150 (6) and GERM 301 (6)
German A (subsidiary)	GERM 150 (6)
Greek (higher level)	GREEK 100 (6)
History (higher level	HIST 120 (6)
Latin (higher level)	LATIN 100 (6)
Latin (subsidiary)	LATIN 100 (6)
Mathematics (higher level)	MATH 114/115 (6) or MATH 100 (3.5)
Mathematics (subsidiary)	MATH 114 (3)
Music (higher level)	Advanced Placement only
Organization Studies	BUS 301 (3)
Physics (higher level)*	PHYS 141/143 (6)
Physics (subsidiary)*	PHYS 105/106 (6)
Romance Languages	Advanced Placement only
French A Italian A Spanish A }	higher or subsidiary level
Social Anthropology (higher level)	Advanced Placement (Social Anthropology area only)
Students who are granted the IB Diploma, and obtain a mark of zero or greater in each of the Extended Essay and Theory of Knowledge.	100-level Open Elective (3)

*No credit/no advanced placement for Faculty of Agriculture and Forestry (BSc in Agricultural Engineering) and the Faculty of Engineering.

Note: Students given Advanced Placement will be permitted to register in a senior course. They may also challenge a course for credit via the Credit by Special Assessment route. (See §13.9.5).

13.4.19 Advanced Placement Students

I. Admission

Admission for high school students who are enrolled in the AP program will be based on **the higher of:** either the high school grade or the AP grade. In those cases where the AP grades are not available at the time of admission selections, the high school grade will be used. The grade conversion scale that will be used to determine admission is as follows:

AP	*Alberta % Equivalent*
5	90%
4	72%
3	57%

II. Advanced Standing

All AP students will automatically receive advanced standing (credit or placement) in approved courses where they have achieved AP grades of 4 or 5. **An official AP transcript is required as part of this evaluation process.** The grade conversion scale that will be used to determine transfer credit is as follows:

AP	*U of A Grade Point*
5	8
4	6
3	no transfer credit

AP Courses Approved for Advanced Standing

AP Courses	*University of Alberta Equivalent*
Art History	ART H 101/102 (6)
Art Studio (Drawing)	ART 240 (3)
Art Studio (General)	ART 131 (6)
Biology	BIOL 100 (3)
Computer Science AB	CMPUT 114/115 (6)
French Language	Advanced Placement only
French Literature	Advanced Placement only
German Language	GERM 265(6)
Latin (Virgil) **and** Latin (Catullus & Horace)	LATIN 100 (6)
Math/Calculus BC	MATH 113/114 (6)
Music Listening/Literature	MUSIC 101 (3)
Music Theory	MUSIC 100 (3)
Spanish Language	Advanced Placement only
Spanish Literature	Advanced Placement only

Note: Students given Advanced Placement will be permitted to register in a senior course. They may also challenge a course for credit via the Credit by Special Assessment route (see §13.8.5).

13.5 Admission for Out-of-Province High School Students

Students from another province in Canada who have successfully completed work at the level shown below will be considered for admission to the University of Alberta, subject to the requirements of the Faculty as outlined in preceding sections.

British Columbia, Manitoba, New Brunswick, Nova Scotia, Prince Edward Island, Saskatchewan
Grade XII graduation.

Ontario
Grade XIII graduation, or OAC level.

Newfoundland
Grade XII graduation, or successful completion of one year at Memorial University.

Quebec
Successful completion of the first year of the CEGEP academic program with satisfactory performance in appropriate subjects.

Note: Students who do not possess these requirements may clear deficiencies by completing appropriate Alberta Grade XII subjects.

For information on provincial equivalents to specific Alberta Grade XII courses, the *Interprovincial High School Equivalence Guide* is available from the Student Access Centre, Office of the Registrar, University of Alberta, Edmonton, Alberta T6G 2M7.

13.6 Admission from Outside Canada

For admission information on undergraduate programs, International students should contact the Admissions Division, Office of the Registrar, 201 Administration Building, Edmonton, Alberta T6G 2M7.

For information on graduate programs, applicants should contact the Faculty of Graduate Studies and Research, 2-8 University Hall, Edmonton, Alberta T6G 2E1.

13.6.1 Admission from the United States

Applicants from the United States may be considered for admission if they present a full academic high school program including three consecutive years of study in the appropriate subjects and Grade XII standing. See §13.4 for specific Faculty and program requirements. The minimum overall average on the required subjects must be at least 70%. See §13.2.4.

13.6.2 Admission from the United Kingdom and Commonwealth Countries which follow the British System of Education

Applicants must present external examination results in General Certificate of Education Examinations, or their equivalents. Acceptable certificates include the Hong Kong Certificate of Education Examination, Hong Kong Advanced Level Examination, Singapore-Cambridge School Certificate Examination, Malaysia Certificate of Education, West African School Certificate, Kenya School Certificate, Higher School Certificate, etc.

For most programs, acceptable grades in five General rtificate of Education external examinations are re- red with at least two at the Advanced Level, and three erent ones at the Ordinary Level. However, the Facul- s of Business, Engineering, and Science require three vanced Level subjects. A minimum overall average in B range, or the equivalent of 70% must be presented the required subjects. See §13.2.4.

Note A: Chemistry at the Advanced Level or Principal andard is required for admission to the Faculties of riculture and Forestry, Engineering, Home Economics, d Nursing, the Diploma program in Dental Hygiene; and Bachelor of Science degree program in Medical Labo- tory Science.

Note B: Mathematics at the Advanced Level or Prin- al Standard is required for admission to the Faculties of riculture and Forestry, Business, Engineering, Rehabil- tion Medicine, and Science.

Note C: Physics at the Advanced Level or Principal andard is required for admission to the Faculty of gineering.

Note D: The Faculty of Science requires Advanced vel Mathematics and two further Advanced Level pure iences. The specific science subjects required would ary according to the area of specialization.

3.6.3 Admission from Australia and New Zealand

An applicant must present an Australian or New ealand leaving or Matriculation Certificate or University ntrance Examination in the specified subjects for a aculty or program as noted in §13.4 to 13.19. The inimum overall average on the required subjects must be 0% for most programs. See §13.2.4.

3.6.4 Admission from Other Countries

Applicants educated in other countries will be consid- red for admission on the basis of a matriculation certificate quivalent to Alberta secondary school standards with the ppropriate required subjects for a Faculty or program as oted in §13.4.

The minimum overall average required for most pro- grams is 70% or the equivalent. See §13.2.4.

Note: §13.7 reserved.

13.8 Admission of Non-Matriculated Applicants

The University of Alberta gives special consideration to Non-Matriculated Applicants for admission to undergraduate programs listed below. To be considered for admission as a Non-Matriculated Applicant (NMA) a student must be 24 years of age or older by the first day of classes of the session in which admission is sought, and be domiciled in Alberta, the Yukon, or the Northwest Territories for at least 12 months prior to the first day of classes of the session in which admission is sought.

NMAs must normally complete specific Alberta Grade XII courses (or equivalents) appropriate to each Faculty with a grade of at least 50% in each required course and an overall average of 65%. There is a limit on the number of NMAs accepted into each program, hence, there is no guarantee that a candidate who meets the minimum criteria will be accepted into the program. Students will be considered on the basis of their academic merit and interview results where applicable. Notwithstanding the basis of admission, all students, after they are admitted, have the same rights, privileges, and responsibilities.

The application deadlines for NMAs are the same as for high school applicants (see §14.2 of this Calendar).

Note A: Non-matriculated applicants are not considered for admission to Medical Laboratory Science or Rehabilitation Medicine.

Note B: In those cases where an applicant is asked to complete an interview with Student Counselling Services, this interview can be arranged by telephoning (403) 492-5205 between 8:30 am and 4:00 pm weekdays or by writing to Student Counselling Services, Room 102, Athabasca Hall, University of Alberta, Edmonton, Alberta, T6G 2E8.

13.8.1 Agriculture and Forestry

Subject Requirements:
(1) Chemistry 30
(2) Mathematics 30
(3) Biology 30

Other Requirements:

An interview with the Associate Dean

I. Pre-Veterinary Medicine

Subject Requirements:
(1) Chemistry 30
(2) Mathematics 30
(3) Biology 30
(4) Physics 30

Other Requirements:

An interview with the Associate Dean

13.8.2 Arts

Subject Requirements:
(1) English 30 or six units of course weight in a transferable English course at the 100-level
OR
a "satisfactory" grade on the Writing Competence Test
(2) Language other than English, at the 30-level (or equivalent)

Other Requirements:
No failure of academic courses in the three years prior to the date of intended registration.

Note A: Effective 1992/93, the Writing Competence Test can no longer be used as a means of gaining admission.

Note B: As of September 1992 the average on the two matriculation subjects in (1) and (2) above must be at least 70%.

13.8.3 Business

The Faculty of Business admits NMA's only under exceptional circumstances.

Subject Requirements:
(1) English 30
(2) Mathematics 30
(3) One of: Biology 30, Chemistry 30, Physics 30

Other Requirements:
An interview with the Faculty Admissions Committee

13.8.4 Dental Hygiene

Subject Requirements:
(1) English 30
(2) Chemistry 30
(3) Biology 30

Other Requirements:
(1) Interview, if required
(2) A biographical letter

13.8.5 Education

BEd Program

Subject Requirements:
(1) English 30
(2) Subject from Group A or C

Combined BEd/BSc Program

Subject Requirements:
(1) English 30
(2) Mathematics 30
(3) Two of: Biology 30, Physics 30, Chemistry 30, or Mathematics 31

13.8.6 Engineering

Subject Requirements:
(1) Chemistry 30
(2) Mathematics 30
(3) Mathematics 31
(4) Physics 30

Other Requirements:
A mark of at least 70% in each subject

13.8.7 Home Economics

I. Clothing and Textiles

Subject Requirements:
(1) English 30
(2) Chemistry 30
(3) Mathematics 30

II. Family Studies

(A) General Route

Subject Requirements:
(1) English 30
(2) Chemistry 30

(B) Family Studies Route

Subject Requirements:
(1) English 30
(2) Chemistry 30
(3) Biology 30

Note: Mathematics 30 is a required prerequisite course for Family Studies.

III. Foods and Nutrition

Subject Requirements:
(1) English 30
(2) Chemistry 30
(3) Mathematics 30
(4) Biology 30

Other Requirements for all Programs:

An interview

13.8.8 School of Native Studies

See §132 for details.

Subject Requirements:
(1) English 30
(2) Subject from Group A or C

Other Requirements:
An interview with the Director of the School

13.8.9 Nursing

I. Basic Program

Subject Requirements:
(1) English 30
(2) Chemistry 30
(3) Biology 30

Other Requirements:
(1) Questionnaire
(2) Two letters of reference

II. Post-Basic Program

Subject Requirements:
(1) English 30
(2) Chemistry 30

Other Requirements:
(1) Graduate Nurse Information Form
(2) Two letters of reference
(3) Applicants must be Registered Nurses from approved Schools of Nursing, and must provide evidence of eligibility for registration in the AARN or evidence of current registration or license in another Canadian jurisdiction.

13.8.10 Physical Education

Subject Requirements:
(1) English 30 (with a minimum grade of 60%)
(2) Subject from Group A or C (Biology 30 recommended)

Other Requirements:
(1) an interview
(2) a leadership and activity background questionnaire
(3) a medical examination report

13.8.11 Faculté Saint-Jean

Subject Requirements for all Programs:
(1) French 20S, French 20N, French 21, French 30, French 31, Langue et Littérature 20 or 30, or Français 20 or 30, French Language Arts 20 or 30, or demonstration of an equivalent level of competence in French.
(2) Applicants for the BA and BEd programs must also present one of: Social Studies 30, Biology 30, Chemistry 30, Physics 30, Mathematics 30 or 31, or their equivalents.
(3) Applicants for the BEd/BSc program must also present Mathematics 30, Biology 30, and one of: Chemistry 30 or Physics 30.
(4) Applicants for the BSc program must also present Mathematics 30 (or equivalent) and two subjects from Group C (or equivalent).

Note: Applicants for the BEd program should contact the Associate Dean, Faculté Saint-Jean, to arrange for an interview.

13.8.12 Science

Subject Requirements:
(1) Mathematics 30
(2) Two subjects from Group C

Other Requirements:
An average of 70% on the three required subjects.

Note: Applicants are advised to contact the Faculty of Science regarding choice of the Group C (science) subjects.

13.9 Admission on Transfer from Postsecondary Institutions

Students seeking admission to a degree or diploma program at the University of Alberta must have successfully completed the matriculation requirements of that program, as specified by the Faculty that offers the program. While Alberta Education is the only agency that certifies successful completion of these matriculation requirements, the University recognizes that there are other ways in which students may meet them - for example, by taking suitable programs of study in postsecondary institutions in the Province.

The University of Alberta, while supporting the traditional role of the high schools in the Province in preparing students for university entrance, recognizes that suitable preparation for university studies is offered by other postsecondary institutions in Alberta.

13.9.1 Transfer from Colleges and Universities

(1) Students seeking admission to the University of Alberta, who **have not met** the appropriate high school matriculation requirements, (i.e., the 70% admission average **and/or** the 5 required Grade XII subjects) on first admission to another postsecondary program, will continue to be eligible for admission to the University if they have:

a. successfully completed at least 30 units of course weight transferable to the University of Alberta;

b. maintained a satisfactory academic standing as defined by the admitting Faculty; and

c. met all other admission criteria (i.e., specific program admission requirements, English Language Proficiency, audition, portfolio, questionnaire, references, etc).

Note: This is interpreted to mean that applicants must meet the same requirements for promotion as students currently in the program for which application is being made. These are set out in the respective Faculty sections of the Calendar.

Such students must have successfully completed, through high school or university transfer coursework, the five required matriculation subject areas specified for admission to the particular degree program to which the student has applied.

(2) Students seeking admission to the University of Alberta who **have met** the appropriate high school matriculation requirements on first admission to another postsecondary program, will continue to be eligible for admission to the University if they have:

a. maintained a satisfactory academic standing as defined by the admitting Faculty;

Note: This is interpreted to mean that applicants must meet the same requirements for promotion as students currently in the program for which application is being made. These are set out in the respective Faculty sections of the Calendar.

b. met all other admission criteria (i.e., specific program admission requirements, English Language Proficiency, audition, portfolio, questionnaire, references, etc).

Note A: Where the applicant has more than one passing grade for the same course at the previous institution, only the first passing grade will be used in calculating the grade point average(s) for the purpose of admission.

Note B: In either (1) or (2) above, transfer credit will be granted for each course that is transferable to the University of Alberta provided that the grade achieved is at least a 4 (or its equivalent) and the course is applicable to the specific program to which the student has applied.

Note C: In either (1) or (2) above, the six units of course weight achieved by successful completion of an introductory language course (Grade XII equivalent) can be counted as part of the "30 units of course weight transferable to the University of Alberta" that some applicants will need to qualify for admission as a transfer student.

In addition, transfer credit **will** be granted for introductory language courses (Grade XII equivalent) that have been successfully completed, **except where**:

(1) this course has been used to meet a language requirement necessary for admission to a degree program,

OR

(2) a 30-level (matriculation) course in the **same** language has also been successfully completed.

13.9.2 Transfer from Alberta Colleges and Technical Institutes (Letter of Recommendation)

Subject to the selection requirements, availability of space and the English Language proficiency requirement (see §13.2.4 and 13.2.2), the University of Alberta will accept as having satisfied the matriculation requirements any applicant for admission who has successfully completed at least the course equivalent of a one-year full-time program at an Alberta college, technical institute, or provincially administered institution, and who is recommended in writing by the sending institution as having satisfied the matriculation requirements of the chosen University of Alberta program. Where further selection procedures are involved in the admission to a program each applicant will be considered on the same basis as any other person seeking admission to that program.

13.9.3 Transfer of Credit

Transfer credit may be granted to applicants for admission who have completed one or more University level course(s) at another recognized university or college. Transfer credit is used to reduce the length of the program the student is required to take at the University of Alberta to qualify for a degree. Generally the amount of transfer credit granted will depend on how applicable the previous course work is to the particular degree program applied for.

The amount of transfer credit is determined by Faculty regulations, and shall be subject to the same regulations as for those transferring from one Faculty to another within the University.

Some provincial postsecondary institutions have approved university transfer programs that provide for transfer of credit. The University of Alberta will accept for transfer credit the courses listed in the appropriate transfer guide to the extent that the courses fit the degree program to which the student wishes to enter (see §16.2).

Note: Among degree-granting institutions transfer credit is assessed on an individual, course-by-course basis by the receiving institution. Consequently these course equivalents are not listed in the *Alberta Transfer Guide*.

A copy of the annual *Alberta Transfer Guide*, which explains the nature and the detail of transfer credit arrangements amongst various postsecondary institutions in Alberta, is available from:

Alberta Council on Admissions and Transfer
4th Floor, 9942-108 Street
Edmonton, Alberta
T5K 2J5
Telephone: (403) 422-9021

13.9.4 Advanced Placement

Advanced placement may be granted to applicants who have taken the equivalent of university courses in some other manner. This excuses them from taking the corresponding university courses, but other courses must be taken in their stead. Thus, students who have been granted advanced placement will not have the length of their program reduced.

If applicants feel they may be eligible for either transfer credit or advanced placement, they should ensure that the application is submitted well in advance of the deadlines given in §14. The University reserves the right to require applicants for transfer credit or advanced placement to write examinations at any level including that of matriculation.

13.9.5 Credit by Special Assessment

Some Faculties have agreed to allow students to seek credit in certain specified courses without actually registering in and taking courses, if they can demonstrate an acceptable level of mastery of the course content. The procedure whereby a student seeks credit in a course by this non-traditional route is known as Credit by Special Assessment.

Faculties, in consultation with departments, will determine which, if any, of their courses may be attempted by special assessment, and the conditions that a student must satisfy in order to have an application approved. Interested students are advised to contact their Faculty.

The privilege of seeking credit in a course by special assessment is limited to students admitted to the University. Students wishing to receive credit in courses by this means are advised to report to their Faculty Office in order to be apprised of Faculty regulations and deadlines for submission of applications.

13.10 Registration as an Unclassified Student

Unclassified Students are permitted to register in a limited number of University courses. Documentation of past education is normally not required **except** to demonstrate English Language Proficiency or to establish that prerequisite courses have been completed. Where documentation is required, it must be presented before registration will be permitted.

Students whose first language is not English, and who wish to register in courses other than those offered by Faculté Saint-Jean, must meet the English Language Proficiency requirements as outlined in §13.2.2 of the Calendar.

Students who do not achieve a passing grade of 4 or more, on the University's 9 point grading system, may not continue to register as Unclassified Students.

13.11 Code of Applicant Behavior

The University of Alberta reserves the right to admit applicants on a conditional basis, to refuse admission or to refuse readmission to an applicant who may constitute a danger or risk of danger to university students, staff or property, or to persons or property in the wider community.

The following procedures outline how the University will deal with academic and non-academic offences by applicants for admission and applicants for readmission to the University of Alberta.

These procedures relate to applicants only. Students who, after completing registration, are found to have been dishonest during the admission or readmission process may be charged under the Code of Student Behavior. See §19 of the Calendar.

13.11.1 Definitions

In these procedures, the following words have the following meaning:

(1) **Appellant:** Any person who appeals under these procedures.

(2) **Applicant:** A person who:

a. Has submitted a University of Alberta Application form, **or**,
b. Has submitted any documents intended to support an application to the University of Alberta, **or**,
c. Sits a University of Alberta sponsored or administered exam, the successful completion of which is considered an application requirement, **or**,
d. Displays an intention to seek admission, or readmission to the University of Alberta at any time following the commission of one or more of the offences listed in these regulations.

(3) **Application:** An Application for Admission form or an Application for Readmission form.

(4) **Dean:** References to the Dean mean to the Dean or designate.

(5) **Discipline Officer:** The person charged by the President with the administration of these procedures.

(6) **Registrar:** References to the Registrar mean to the Registrar or designate.

(7) **University Appeal Board:** The Appeal Board prescribed within the Code of Student Behavior (§19 of the Calendar).

13.11.2 Offences

For purposes of these procedures, it will be considered an offence on the part of an applicant to the University of Alberta:

(1) To misrepresent or aid another person or persons to misrepresent material fact for the purpose of obtaining academic or other advantage;

(2) To commit, or aid another person or persons to commit, an act designed to misrepresent an applicant's status;

(3) To assist a student of the University of Alberta in an act of cheating, plagiarism, fraud, deceit, or any other form of academic dishonesty;

(4) To knowingly obstruct University activities. University activities include but are not limited to, teaching, research, studying, administration, meetings, and public service. However, nothing in this Code shall be construed to prohibit peaceful assemblies and demonstrations, lawful picketing, or to inhibit free speech;

(5) To convert or misappropriate University materials, documents, or other property;

(6) To physically abuse another person, threaten any other person with physical abuse or damage to such person's property or knowingly, and without just cause, cause any other person to fear physical abuse or fear damage to such person's property.

13.11.3 Initiation of Complaints

(1) Any person who believes that an applicant is guilty of one or more of the above offences may initiate proceedings against the applicant.

(2) Where a person believes that an applicant has committed one of the above offences, that person may communicate the particulars of the alleged offence to the Dean of the Faculty to which the applicant is seeking admission or readmission, or the Registrar. The Registrar will have jurisdiction over Unclassified Program applicants and applicants who are not identified with a particular Faculty at the time of the offence. The Dean will have jurisdiction over all applicants to a particular Faculty.

13.11.4 Procedures to be Followed by the Dean or Registrar

(1) The Dean or the Registrar must provide the applicant with a reasonable opportunity to review the alleged offence.

(2) Where the Dean or the Registrar believes that one of the above offences has been committed, that individual may impose one of the following penalties:
- a. verbal and/or written reprimand;
- b. refusal to consider applications to any program or in any registration status at the University of Alberta for up to five years;
- c. permanent refusal to consider applications to any program or in any registration status at the University of Alberta.

(3) Where a penalty of permanent refusal to consider applications has been imposed, and where the applicant has unsuccessfully appealed the imposition of such a sanction, the applicant has the right to appeal the sanction each five years from the initial date of its imposition or from the date of last appeal.

(4) Where the Registrar imposes a sanction under §13.11.4(2), that individual shall create and maintain a file setting out:
- a. the particulars of the offence, and
- b. a brief statement giving details of the sanction imposed.

(5) Where a Dean imposes a sanction under §13.11.4(2), that individual shall file with the Registrar a statement in writing setting out:
- a. the particulars of the offence, and
- b. a brief statement giving details of the sanction imposed.

13.11.5 Procedures to be Followed by the Registrar

The Registrar shall, by registered letter, notify the applicant of the Registrar's decision, or the decision of the Dean, and provide the applicant with the procedures by which that decision may be appealed as stated below.

13.11.6 Appeals Against Decision of Deans or Registrar

(1) An applicant may appeal the decision of the Dean or the Registrar to the University Appeal Board. The appeal may be based upon a denial of the commission of the offence or may relate to the severity of the penalty imposed, or both.

Applicants wishing to appeal a decision of the Dean or the Registrar, must submit a notice of appeal in writing to the Discipline Officer. Such notice must be delivered to the Officer no later than thirty (30) days after receipt of the decision of the Dean or the Registrar. The Board may, at its discretion, accept an appeal after the expiry of the thirty (30) days.

Appellants will be granted temporary admission or readmission, provided their applications meet Faculty requirements. Such temporary admissions are subject to cancellation if the appeal is denied.

(2) The University Appeal Board shall adhere to the same procedures as contained in the Code of Student Behavior, excepting those instances where these procedures limit or alter procedures as defined in the Code of Student Behavior.

(3) Where the applicant denies the commission of the offence or appeals the severity of the penalty, the Unviersity Appeal Board shall consider the appeal *de novo*, and arrive at a decision.

(4) Where the University Appeal Board decides that the applicant is not guilty of the offence, the appellant's application will be considered on the same basis as all other applicants.

13.12 University Patent Policy

By accepting admission, students agree to abide by the provisions of the University of Alberta Patent Policy, as the same may be amended from time to time, with regard to any patentable discoveries or inventions in which students may participate. Acceptance of this policy is a condition of registration in any University program. Copies of the University of Alberta Patent Policy are available from the Intellectual Property and Contracts Office.

14 Undergraduate Application Procedures

14.1 Enquiries for New Students

Enquiries from prospective undergraduate students should be addressed to the Registrar's Office. The Student Access Centre in the Office of the Registrar acts as an advisory office for all categories of new students, other than those eligible for direct admission into the Faculty of Graduate Studies and Research. The Student Access Centre is located on the main floor of the Administration Building. Telephone enquiries may be directed to (403) 492-4537.

14.2 Application Deadlines for Admission and Readmission

The following definitions, regulations, and directions pertain to the deadlines published on the subsequent pages. Please read them carefully.

(1) **Academic Year**: The University's academic year is divided into two sessions: Intersession (May to mid-August) and; Winter Session (September to April). The Winter Session is further divided into two terms (September to December and January to April).

(2) **Who submits an "Application for Admission"?** Admission application forms are submitted by students who have **never attended** the University of Alberta, although they may have previously applied. Deadlines for these students are listed by Faculty and program in columns 1 and 2 of the Admission/Readmission Deadlines table, §14.2.1.

There are two categories of applicants for admission:
- a. **High School Student**: A student whose most recent education has been taken in a high school and who has also never attended a postsecondary institution. This category of student is identified in the deadline table as 'HS'.
- b. **External Transfer Student**: A student who is transferring from another postsecondary institution. This category of student is identified in the deadline table as 'ET'.

A student who has **only attended** as an Unclassified student or as an Auditor Only student, and who now wishes to transfer to a degree program or to attend as a Special or Visiting student, must also complete an application for admission, although he or she is regarded as an Internal Transfer for deadline purposes (see below).

(3) **Who submits an "Application for Readmission"?** This form is submitted by a current or former University of Alberta student, except as noted above for Unclassified students or Auditor Only students. Deadlines for these students are listed by Faculty and program in columns 3 and 4 of the deadline table, §14.2.1.

There are two categories of applicants for readmission:
- a. **Internal Transfer Student**: A student who wishes to transfer from one program to another program within the same Faculty or to another Faculty. This category includes former Unclassified students or Auditors Only who seek to re-enter a previous degree program or transfer to another, or who wish to attend as a Special or Visiting student. All are identified in the deadline table as 'IT'.
- b. **Previous Student**: A student who is re-applying, after having been required to withdraw or after a voluntary absence of 12 consecutive months or more, to the **same** program in the **same** Faculty in which he or she was **most recently** enrolled. It is also assumed that no other institution was attended in the interim. (If another institution has been attended in the interim, such a student would instead be classified as an Internal Transfer Student.) Previous students are identified in the deadline table as 'PS'.

Previous students who have been required to withdraw are normally only considered for readmission for the first term of Winter Session.

(4) There are **separate application forms** for admission and readmission. Please ensure you have obtained the correct one for your purpose. An application will be returned if it is received after the stated deadline.

(5) A **non-refundable application fee** is charged for **each** admission or readmission form submitted. Any form will be returned if it is submitted without the fee.

(6) The **Other Requirements** listed in column 5 of the table refer to all students, whether applying for admission or readmission, unless otherwise stated.

(7) If the **published deadline** for a particular item falls on a weekend or statutory holiday, that item will be accepted by the Office of the Registrar if it is received or postmarked by the end of the next full working day.

(8) **Documentation**: All students must submit two complete and official transcripts of work they have completed at institutions other than the University of Alberta before a final decision is made on admissibility. These documents must be submitted as soon as possible after the results of their most recent examinations are available.

A student will not be considered if any document or required item is received after the stated deadline.

(9) Students intending to enter a program as a **non-matriculated applicant** should refer also to §13.8 as well as to the appropriate Faculty section of this Calendar.

(10) An admission or readmission decision to any program is valid only for the session or term for which it is approved and will **not** be carried over to a future date if a student chooses not to attend. Another form and application fee will be required.

(11) Students who wish to attend as Unclassified students should refer to the last entry of the deadline table. A registration form for Unclassified students must be submitted by the dates specified.

See also §13.10 of this Calendar for additional information.

(12) Students who wish **only to audit courses** may register according to the dates specified in the Academic Schedule. Such students must report to the Office of the Registrar to obtain an Auditor Only registration form.

Refer also to §12.2.3 of this Calendar for additional information regarding auditing students.

14.2.1 Admission and Readmission Deadlines for Intersessions 1991 and 1992, and Winter Session 1991-92

Faculty/Program and Session*		1. Admission Application	2. Admission Documents +	3. Readmission Application +	4. Readmission Documents	5. Other Requirements
AGRICULTURE AND FORESTRY						
All programs including Special	IN1 '91	No Admission		IT - March 1 PS - March 31	March 31	
and Visiting Students	IN2 '91	No Admission		IT - April 1 PS - May 1	May 1	
	WS1	June 1	ET - June 15 HS - August 1	IT - June 1 PS - End of Reg'n	August 1	
	WS2	No Admission		November 1	November 1	
	IN '92	March 1	March 31	March 1	March 31	
ARTS						
BA, BA (General, Special, Honors,	IN1 '91	No Admission		IT - March 1 PS - March 31	March 31	
Cert of Equiv),	IN2 '91	No Admission		May 1	May1	
BA (Canadian Studies), BA (East Asian	WS1	June 1	ET - June 15 HS - August 1	IT - June 1 PS - August 1	June 15	
Studies), Special	WS2	No Admission		PS only - Nov 1	Not Applicable	
and Visiting Students	IN '92	March 1	March 31	March 1	March 31	
BA (Criminology)	IN1 '91	No Admission		PS only - March 31	Not Applicable	Not Applicable
	IN2 '91	No Admission		PS only - May 1	Not Applicable	Not Applicable
	WS1	March 1	June 1	March 1	June 1	References - March 1
	WS2	No Admission		PS only - Nov 1	Not Applicable	Not Applicable
	IN '92	No Admission		PS only - March 1	Not Applicable	Not Applicable
BFA (Art and	IN1 '91	No Admission		PS only - March 31	Not Applicable	Not Applicable
Design)	IN2 '91	No Admission		PS only - May 1	Not Applicable	Not Applicable
	WS1	June 1	ET - June 15 HS - August 1	June 1	June 15	Portfolio - May 1
	WS 2	No Admission		PS only - Nov 1	Not Applicable	Not Applicable
	IN '92	No Admission		PS only - March 1	Not Applicable	Not Applicable
BFA (Drama -	IN1 '91	No Admission		PS only - March 31	Not Applicable	Not Applicable
Acting)	IN2 ' 91	No Admission		PS only - May 1	Not Applicable	Not Applicable
	WS1	June 1	ET - June 15 HS - August 1	June 1	June 15	Audition Application - January 11
	WS2	No Admission		PS only - Nov 1	Not Applicable	Not Applicable
	IN '92	No Admission		PS only - March 1	Not Applicable	Not Applicable
BFA (Drama -	IN1 '91	No Admission		PS only - March 31	Not Applicable	Not Applicable
Theatre Design)	IN2 '91	No Admission		PS only - May 1	Not Applicable	Not Applicable
	WS1	June 1	ET - June 15 HS - August 1	June 1	June 15	Portfolio - April 1
	WS2	No Admission		PS only - Nov 1	Not Applicable	Not Applicable
	IN '92	No Admission		PS only - March 1	Not Applicable	Not Applicable
BMUS,	IN1 '91	No Admission		PS only - March 31	Not Applicable	Not Applicable
BMUS (Honors)	IN2 '91	No Admission		PS only - May 1	Not Applicable	Not Applicable
	WS1	June 1	ET - June 15 HS - August 1	June 1	August 1	Audition Application - May 15
	WS2	No Admission		PS only - Nov 1	Not Applicable	Not Applicable
	IN '92	No Admission		PS only - March 1	Not Applicable	Not Applicable
BUSINESS						
All programs	IN1 '91	No Admission		PS only - March 31	Not Applicable	
including Special	IN2 '91	No Admission		PS only - May 1	Not Applicable	
and Visiting	WS1	June 1	ET - July 1	June 1	July 1	
Students	WS2	No Admission		PS only - Nov 1	Not Applicable	
	IN '92	No Admission Special and Visiting students contact Faculty Office prior to applying.		PS only - March 1	Not Applicable	
DENTISTRY						
DDS	WS1	February 1	June 15	February 1	June 15	DAT, Interview - see §62.1.1
	WS2 and Intersessions: No admission or readmission					
Diploma in Dental Hygiene	WS1	February 1	ET - June 15 HS - August 1	February 1	June 15	Interview - see §62.1.4
	WS2 and Intersessions: No admission or readmission					
Special/Visiting	Contact the Faculty Office prior to applying to any session					

Key *

IN1 '91 - Intersession, Spring-Term — 1991
IN2 '91 - Intersession, Summer-Term — 1991
WS1 - Winter Session, First-Term
WS2 - Winter Session, Second-Term
IN '92 - Intersession 1992

Key + (see §14 of Calendar for definitions)

HS - High School Student
ET - External Transfer Student
IT - Internal Transfer Student
PS - Previous Student

Faculty/Program and Session*		1. Admission Application	2. Admission Documents +	3. Readmission Application +	4. Readmission Documents	5. Other Requirements
EDUCATION						
BEd (Elementary and Secondary Routes), BEd/BSc Special and Visiting Students	IN1 '91	No Admission		PS only - Contact Faculty Office prior to any application to IN1 or IN2.	Not Applicable	
	IN2 '91	No Admission				
	WS1	March 1	ET - June 15 HS - August 1	March 1	June 15	References, Statement of Purpose, Statement of Experience with Children/Youth - May 1
	WS2	No Admission		PS only - Nov 1	Not Applicable	
	IN '92	No Admission		PS only - March 1 Contact Faculty Office prior to any application.	Not Applicable	
BEd (Industrial Arts, and Vocational Education - High School Special Routes)	IN1 '91	No Admission		PS only - Contact Faculty Office prior to any application to IN1 or IN2.	Not Applicable	
	IN2 '91	No Admission				
	WS1	March 1	June 15	March 1	June 15	Trade Documents, (VocEd only), References, Statement of Purpose, Statement of Experience with Children/Youth - May 1
	WS2	No Admission		PS only - Nov 1	Not Applicable	
	IN '92	No Admission		PS only - March 1 Contact Faculty Office prior to any application.	Not Applicable	
Diploma in Education	In1 '91	No Admission		IT - March 1 PS - End of Reg'n	End of Reg'n	
	IN2 '91	No Admission		IT - April 1 PS - End of Reg'n	End of Reg'n	
	WS1	June 1	August 1	IT - June 1 PS - End of Reg'n	August 1	
	WS2	No Admission		November 1	November 1	
	IN '92	March 1	March 31	March 1	March 31	
ENGINEERING						
All Engineering degree programs	IN1 '91	No Admission		PS only - March 31	Not Applicable	
	IN2 '91	No Admission		PS only - May 1	Not Applicable	
	WS1	June 1	ET - June 15 HS - August 1	June 1	June 15	
	WS2	No Admission		PS only - Nov 1	Not Applicable	
	IN '92	No Admission		PS only - March 1	Not Applicable	
Special/Visiting	IN1 '91	No Admission		April 30		
	IN2 '91	No Admission		June 30	June 30	
	WS1	End of Reg'n	End of Reg'n	End of Reg'n	End of Reg'n	
	WS2	No Admission		End of Reg'n	End of Reg'n	
	IN '92	March 1	March 31	March 1	March 31	
HOME ECONOMICS						
BSc in Home Economics	IN1 '91	No Admission		IT - March 1 PS - March 31	March 31	
	IN2 '91	No Admission		IT - April 1 PS - May 1	May 1	
	WS1	June 1	ET - June 15 HS - August 1	June 1	August 1	
	WS2	No Admission		PS - only Nov 1	Not Applicable	
	IN '92	No Admission		March 1	March 31	
Special/Visiting	IN1 '91	No Admission		March 1	April 30	
	IN2 '91	No Admission		April 1	June 30	
	WS1	June 1	August 1	June 1	August 1	
	WS2	No Admission		November 1	November 1	
	IN '92	March 1	March 31	March 1	March 31	
LAW						
LLB	WS1	February 1	Preliminary selection - February 1 Final - June 15	February 1	Preliminary selection - February 1 Final - June 15	Resumé, LSAT Score - Feb 1
	WS2 and Intersessions: No admission or readmission					
Special/Visiting	Contact the Faculty Office prior to applying to any session					

Faculty/Program and Session*		1. Admission Application	2. Admission Documents +	3. Readmission Application +	4. Readmission Documents	5. Other Requirements
MEDICINE						
BSc in Medical	WS1	June 1	August 1	June 1	June 15	Interview - see §122.1.1
Laboratory Science	WS2 and Intersession: No admission or readmission					
MD	WS1	November 1	January 31	November 1	January 31	December 31 - MCAT, Interview, resumé, reference - see§122.1.1
	WS2 and Intersessions: No admission or readmission					
Special/Visiting	Contact the Faculty Office prior to applying to any session					
NATIVE STUDIES						
All programs	IN1 '91	No Admission		March 1	March 31	
including Special	IN2 '91	No Admission		April 1	May 1	
and Visiting	WS1	June 1	ET - June 15 HS - August 1	August 1	August 1	
	WS2	No Admission		November 1	November 1	
	IN '92	March 1	March 31	March 1	March 31	
NURSING						
BSc (Basic)	IN1 '91	No Admission		PS only - Contact Faculty Office prior to any application to IN1 or IN2	Not Applicable	
	IN2 '91	No Admission			Not Applicable	
	WS1	May 1	ET - June 15 HS - August 1	May 1	May 15	References, questionnaires, immunization - May 15
	WS2	No Admission		PS only - Nov 1	Not Applicable	
	IN '92	No Admission		PS only - March 1 Contact Faculty Office prior to application	Not Applicable	
BSc (Post RN) On and Off-Campus Programs	IN1'91	No Admission		PS only - Contact Faculty Office prior to any application to IN1 or IN2	Not Applicable	
	IN2 '91	No Admission			Not Applicable	
	WS1	May 1	May 15	May 1	May 15	Same as Basic above
	WS2	No Admission		PS only - Nov 1	Not Applicable	
	IN '92	No Admission		PS only - March 1 Contact Faculty prior to application	Not Applicable	
Special Students	IN1 '91	No Admission		March 1	March 31	
(RN's and Bsc in	IN2 '91	No Admission		April 1	May 1	
nursing degree	WS1	July 1	July 15	July 1	July 15	
holders only)	WS2	No Admission		November 1	November 1	
	IN '92	March 1	March 31	March 1	March 31	
Visiting Students	Contact the Faculty Office prior to applying to any session					
PHARMACY AND PHARMACEUTICAL SCIENCES						
BSc in Pharmacy	WS1	June 1	June 15	June 1	June 15	Statement of Purpose - June 1
	WS2 and Intersessions: No admission or readmission					
Special/Visiting	Contact the Faculty Office prior to applying to any session					
PHYSICAL EDUCATION AND RECREATION						
Bachelor of Physical	IN1 '91	No Admission		PS only - March 31	Not Applicable	
Education	IN2 '91	No Admission		PS only - May 1	Not Applicable	
	WS1	May 1	ET - June 15 HS - August 1	IT - May 1 PS - June 1	June 15	Questionnaires, interviews, references, medicals - June 15
	WS2	No Admission		No Admission		
	IN '92	No Admission		PS only - March 1	Not Applicable	
BA in Recreation	IN1 '91	No Admission		PS only - March 31	Not Applicable	
Administration	IN2 '91	No Admission		PS only - May 1	Not Applicable	
	WS1	May 1	June 15	IT - May 1 PS - June 1	June 15	
	WS2	No Admission		No Admission		
	IN '92	No Admission		PS only - March 1	Not Applicable	
Special/Visiting	IN1 '91	No Admission		April 30	April 30	
	IN2 '91	No Admission		June 30	June 30	
	WS1	End of Reg'n	End of Reg'n	End of Reg'n	End of Reg'n	
	WS2	No Admission		November 1	November1	
	IN '92	March 1	March 31	March 1	March 31	

Faculty/Program and Session*		1. Admission Application	2. Admission Documents +	3. Readmission Application +	4. Readmission Documents	5. Other Requirements
REHABILITATION MEDICINE						
BSc in Occupational Therapy	WS1	April 1	June 1	April 1	June 1	
	WS2 and Intersessions: No admission or readmission					
Post Diploma Degree Completion (Occupational Therapy)	WS1	April 1	June 1	April 1	June 1	
	WS2 and Intersessions: No admission or readmission					
BSc in Physical Therapy	WS1	February 1	Interview selection documents all students - March 15 Final ET - June 15 Final HS - August 1	February 1	Interview selection documents - March 15 Final - June 15	Interview - see §172.1.3
	WS2 and Intersessions: No admission or readmission					
Post Diploma Degree Completion (Physical Therapy)	WS1	February 1	June 15	February1	June 15	
	WS2 and Intersessions: No admission or readmission					
Special/Visiting	Contact the Faculty Office prior to applying to any session					
FACULTE SAINT-JEAN						
All programs including Special and Visiting Students	IN1 '91	No Admission		IT - March 1 PS - March 31	March 31	
	IN2 '91	No Admission		IT - April 1 PS - May 1	May 1	
	WS1	June 1	ET - June 15 HS - August 1	IT - August 1 PS - End of Reg'n	August 1	
	WS2	No Admission		November 1	November 1	
	IN '92	March 1	March 31	March 1	March 31	
SCIENCE						
BSc General, Special or Visiting Students	IN1 '91	No Admission		IT - March 1 PS - March 31	March 31	
	IN2 '91	No Admission		IT - April 1 PS - May 1	May 1	
	WS1	May 1	ET - June 30 HS - August 1	IT - May 1 PS - July 1	June 30	
	WS2	No Admission		PS only - Nov 1	November 1	
	IN '92	March 1	March 31	March 1	March 31	
BSc (Specialization, Honors)	IN1 '91	No Admission		PS only - March 31	Not Applicable	
	IN2 '91	No Admission		PS only - May 1	Not Applicable	
	WS1	May 1	ET - June 30 HS - August 1	IT - May 1 PS - July 1		
	WS2	No Admission		No Admission		
	IN '92	No Admission		PS only - March 1	Not Applicable	
BSc (Computing Science)	WS1	May 1	June 30	May 1	June 30	
	WS2 and Intersessions: No admission or readmission					

UNCLASSIFIED			
		Admission/Reg'n Application	Admission/Reg'n Documents
All Students	IN1 '91	May 7, 1991	Not normally required for any session except as specified in §14.1(9).
	IN2 '91	July 3, 1991	
	WS1	September 11, 1991	
	WS2	January 10, 1992	
	IN1 '92	May 5, 1992	
	IN2 '92	July 7, 1992	

Key *

IN1 '91 - Intersession, Spring-Term — 1991
IN2 '91 - Intersession, Summer-Term — 1991
WS1 - Winter-Session, First-Term
WS2 - Winter-Session, Second-Term
IN '92 - Intersession 1992

Key + (see §14 of Calendar for definitions)

HS - High School Student
ET - External Transfer Student
IT - Internal Transfer Student
PS - Previous Student

14.3.2 Undergraduate Application Deadlines for Admission or Readmission for Winter Session 1992-93 Beginning in September 1992

Faculty/Program and Session*	1. Admission Application	2. Admission Documents +	3. Readmission Application +	4. Readmission Documents	5. Other Requirements
(1) Degree Students					
All Degree Programs	May 1	PS - June 15 HS - August 1	May 1	PS - June 15	
Exceptions:					
Arts, BA (Criminology)	March 1	June 1	March 1	June 1	References - March 1
Dentistry, DDS	February 1	June 15	February 1	June 15	DAT, Interview - see §62.1.1
Dentistry, Dental Hygiene	February 1	PS - June 15 HS - August 1	February 1	June 15	Interview - see §62.1.4
Education (Years 3 & 4)	March 1	June 15	March 1	June 15	References, Statement Purpose, Statement of Experience with Childr Youth - May 1
Law	February 1	Preliminary selec- tion - February 1 Final - June 15	February 1	Preliminary selec- tion - February 1 Final - June 15	Resumé - February 1 LSAT - see §10.
Medicine, MD	November 1	January 31	November 1	January 31	MCAT, Interview, resur references - December see §122.1.1
Native Studies	Individual exceptions - Contact School Office				
Rehab Med, Occupational Therapy	April 1	June 1	April 1	June 1	
Rehab Med, Physical Therapy	February 1	Interview selection documents all students - March 15 Final ET - June 15 Final HS - August 1	February 1	Interview selection documents - March 15 Final - June 15	Interview - see §172.
Faculté Saint-Jean	May 1	PS - June 15 HS - August 1	August 1	August 1	
(2) Special or Visiting Students					
All Programs	July 1	July 15	July 1	July 15	
Exceptions:					
Engineering	End of September registration	End of September registration	End of September registration	End of September registration	
Faculté Saint-Jean	July 1	July 15	August 1	August 1	

Business
Dentistry
Law
Medicine
Pharmacy and Pharmaceutical Sciences
Rehabilitation Medicine

Special or visiting students wishing to enter these faculties are advised to contact the Faculty office before applying.

Key + - (see §14 of Calendar for definitions)
HS - High School Student
PS - Previous Student

15 Registration and Fees

15.1 Registration

15.1.1 Responsibility for Registration

Students are responsible for the completeness and accuracy of their registration. They are also responsible for adjustments in registration made necessary by changes to their academic status.

15.1.2 Registration Procedure

Registration for the 1991-92 Winter Session for continuing students will commence on March 15th, 1991. Registration for conditionally admitted students and confirmed admissions will commence on May 1st, 1991.

The program in which a student seeks to register is in every case subject to the approval of the Faculty concerned. Students should note that they are required to register in courses in which they are deficient before registering in any other courses. The Faculty councils reserve the right to adjust courses to meet the needs of timetables of lecture and examinations. Registration in courses which directly conflict on the timetable will only be allowed where the express permission of the Faculty council concerned has been secured.

15.1.3 Re-Registration in Courses

(1) Students may not repeat any University course passed or courses for which they have received transfer credit except for reasons deemed sufficient, and verified in writing, by the dean of the Faculty in which they are enrolled.

(2) Students may not re-register for credit or audit more than once in any failed University course, except for reasons deemed sufficient by the dean (or designate) of the Faculty in which they are enrolled.

(3) Students may not re-register for credit or audit more than once in any University course in which they have received a final grade of W, except for reasons deemed sufficient by the dean (or designate) of the Faculty in which they are enrolled.

(4) In cases where a student contravenes regulations 1, 2, or 3 above, the dean (or designate) may withhold credit or indicate the course as extra to the degree, on the course registration that contravenes the regulation.

(5) Students may repeat a first-term course in the second term if it is offered in the second term, as long as the student complies with regulations 1, 2. and 3 above.

(6) An undergraduate student who, because of unsatisfactory academic performance, is either required to withdraw, and/or required to repeat a year, and/or put on probation, will retain credit for courses in which grades of 4 or higher have been attained during the period for which the student's performance was evaluated as unsatisfactory.

Notwithstanding this credit, Faculties may require substitution of other courses in programs in which full course loads are required.

(7) The Faculties of Dentistry, Law, Medicine, and Pharmacy and Pharmaceutical Sciences were granted exemption from (6) above.

15.1.4 Prerequisite Course Requirements

Students registering in courses for which a prereq site is listed must meet the prerequisite requirements. grade of 4 is the minimum grade acceptable in a cou which is to be used as a prerequisite. Departments m cancel the registrations of students in courses offered by t departments who do not meet the prerequisite requireme as stated in the course descriptions in this Calendar.

Degree credit may be withheld for courses w prerequisite requirements if the prerequisite requireme have not been met or waived in writing.

Where a prerequisite is stated, it is understo that equivalent courses may be used to satisfy t requirement. In addition, the prerequisite requireme may be waived with the written approval of the departme that offers the course.

Students who are unsure that they meet the prereq site requirements in a course, or who wish to obt permission to have a prerequisite waived, should cons the department offering the course.

15.1.5 Corequisite Course Requirements

Students registering in courses for which a coreq site is listed must also register in the corequisite course have previously passed the corequisite course with minimum grade of 4. Departments may cancel the reg trations of students in courses offered by the departmer who do not meet the corequisite requirements as stated the course description of this Calendar. Degree credit m be withheld for courses with corequisite requirements the corequisite requirements have not been met or waiv in writing.

Where a corequisite is stated, it is understood that ivalent courses may be used to satisfy the require- nts. In addition, the corequisite requirements may be ved with the written approval of the department that rs the course.

Students who are unsure that they meet the corequi- requirements in a course, or who wish to obtain mission to have a corequisite waived, should consult department offering the course.

Courses with corequisite requirements may only be d for degree credit if the corequisite requirements have n met or waived in writing. A grade of 4 is the minimum de acceptable in a course used as a corequisite.

5.1.6 Confirmation of Registration

Students are required to confirm their registration by king up their timetable according to the schedule pub- ed in the Registration Procedures Booklet. Registra- ts of students who fail to confirm their intent to attend by king up their timetables will be cancelled.

5.1.7 Late Registration

Students are normally required to complete their istration by the date specified in the academic sched- . After the end of the registration period, registration will permitted only in exceptional circumstances and stu- nts may find that the course offerings are limited.

5.1.8 Changes in Registration

Changes of registration may be made by students til the end of the registration period. After the end of gistration students must first obtain permission from ir dean. This permission, in the form of a "Courses to be ded/Deleted Form" signed by the department(s) offering e course(s) and the student's dean, must be presented the Registrar before the change becomes official. anges in registration will not normally be approved after e deadline appearing in the Academic Schedule. Students ay not abandon a course. In some Faculties, students ill be assigned a failing grade if they abandon a course ter the dates specified for withdrawal in the Academic hedule or the Faculty Regulations section of the Calendar.

5.1.9 Cancellation of Registration or Withdrawals

After the end of the registration period, students who sh to withdraw from courses or from the University must mplete a "Change to Audit Status/Withdrawal" form. tudents in the BFA Drama, BMus, and Graduate Studies ograms must first obtain the signatures of their Depart- ent Chair. All forms must be submitted to the student's ean for approval. The approved form must then be submitted the Office of the Registrar. Students contemplating with- awal are invited to visit Student Counselling Services to scuss with a counsellor questions relating to their withdrawal cision, readmission, or future vocational plans.

5.1.10 Graduate Student Registration for the May-August Period

Graduate students who are working full-time on their raduate program during part or all of the period from May August are encouraged to record their presence on ampus at their department office. Those holding Universi- awards during this period must so record their presence. ull residence credit is given for this period to students ho have recorded their presence with their Departments. here is no fee. Students registered in courses or for hesis/project in Interssion are not automatically consid- red as full-time students for residence requirements, and re advised to consult their Departments.

5.1.11 Registration to Audit a Course

Students who wish to audit a course will follow the ame procedures as above whether or not they are taking ther courses for credit. See §12.2.3 for details.

5.1.12 Registration of Unclassified Students

Registration as an Unclassified Student is complete when the Application/Registration form has been ap- proved and the appropriate fees paid. Further information s available from the Unclassified Student Coordinator, Office of the Registrar, phone (403) 492-4610.

15.2 Fees Payment Guide

Fees are approved by the University's Board of Governors and may change without notice. Students pay their fees at the rates which are in effect at the time of payment. Fees included in your fee assessment are exempt from the Federal Goods and Services Tax (GST).

Please call the following, if there are any questions regarding fees:

Undergraduate fee assessment:
Registrar's Office (492-3113)

Graduate fee assessment:
Faculty of Graduate Studies and Research (492-3499)

Fee payment:
Comptroller's Office (492-3389)

Definitions of the terms used in this section can be found in the glossary at the back of this Calendar.

15.2.1 **1990/91** Undergraduate Instructional and General Fees

(1) How Instructional (Tuition) Fees are Assessed

With few exceptions, tuition fees for undergraduate students are assessed by calculating the cost of each course in which the students are registered for credit, according to the following formula: units of course weight x fee index value x 2. In the "details of courses" sections of this Calendar, the course weight is shown following the title of each course, and is indicated by *. The fee index value is a dollar amount that is approved annually by the Board of Governors. The undergraduate fee index for 1990-91 was $20.48.

Audited courses are assessed using the formula "units of course weight x fee index value."

Fees are assessed by term (see glossary). A full-session course counts for fee purposes as two half-courses, one in each term.

There is no maximum fee per term unless otherwise indicated in the undergraduate instructional fee schedule (see below).

Differential fee for students on Student Authorizations: If you are a student who is not a Canadian Citizen or Permanent Resident you are required to pay an additional 50% on tuition fees. If you become a Permanent Resident (landed immigrant) during a session, the differential fee will be waived in subsequent terms. Please submit proof of your change of immigration status to the Registrar's Office (main floor Administration Building).

Fee for Co-op Engineering Work Experience: Students registered in Engineering work experience programs must pay a $61.44 work experience fee in addition to their overall tuition fee assessment. This fee will increase for 1991-92 and again for 1993-94.

(2) 1990/91 Undergraduate Instructional Fee Schedule

Students registered in the Faculty of Graduate Studies and Research should consult §15.2.2; students who are not Canadian Citizens or Permanent Residents must add a differential fee of 50% to all values in this section. Please note: The fee rates listed below are for 1990-91; fees are subject to change without notice.

1990-91 fee index value: $20.48

Half-course, weight of ★3, for credit: $20.48 x 3 x 2=$122.88
Full-course, weight of ★6, for credit: $20.48 x 6 x 2 =$245.76
Half-course, weight of ★3, audited: $20.48 x 3 = $61.44
Full-course, weight of ★6, audited: $20.48 x 6 = $122.88

Program maximums are in place for the following programs only:

MD and DDS programs, all years:	$897.00/term
Postgraduate Medical Educ. Program:	$250.00/year
Dental Hygiene program, both years:	$597.89/term
BSC in Medical Laboratory Science 3rd year only:	$299.00/term

Individual courses taken by students enrolled in the MD and DDS programs, and by some Special Students in the Faculties of Medicine and Dentistry, are assessed using a fee index value of $35.65.

(3) 1990/91 Undergraduate General Fee Schedule

Students are assessed general fees per term as shown below; the corresponding privileges conferred are explained in §15.9. Exceptions to general fee payment rules are listed at the end of this section.

For fee purposes, a full-time student is registered for credit in courses with a combined weight of 9 or more in a term. Optional privileges must be selected at the time of registration.

Fee	Full-time Winter Session	Part-time Winter Session	Intersession
Library & Computing Services	$69.00/term mandatory	$23.00/term mandatory	$11.50/term mandatory
Students' Union	$24.00/term[1] mandatory	$ 9.25/term[2] mandatory	$9.50/term[3] mandatory
Athletic Services	$27.00/term mandatory	$27.00/term optional	N/A see note 3
Health Services	$12.00/term mandatory	$12.00/term optional	$6.00/session mandatory

[1] Confers full membership. Full-time students in the DDS, BEd/AD, Diploma in Education or LLB programs, or years 1 and 2 of the MD program pay $19.38/term. Students in years 3 and 4 of the MD program pay $5.00/term for associate membership, or may elect to pay $19.38/term for full membership (see §15.9.2).

[2] Confers associate membership. Part-time students may elect at registration to pay the full-time rate for full membership (see §15.9.2). All off-campus students pay $5.00/term.

[3] Includes the use of athletic facilities. All off-campus students pay $4.50 per term.

Exceptions to general fee payment regulations:

- Engineering Co-op program students registered in work experience only do not pay the Library and Computing Services fee; other general fees and privileges are optional.
- Unclassified students do not pay general fees, with the exception of the Library and Computing Services fee, and are not granted the corresponding privileges.
- For University of Alberta Hospital School of Nursing diploma students, and for all students taking all their courses off campus, Athletic Services and Health Services fees and privileges are optional even for full-time students; other fees are mandatory.

15.2.2 **1990-91** Graduate Instructional and General Fees

(1) How Instructional (Tuition) Fees are Assessed

a. Students in Degree Programs

Program Fee: Each category of graduate program has been assigned a "program" fee, which covers the basic instructional cost per student for that program. The program fee is based on a term fee, defined below. The following table shows the program fee for the various program categories. For an explanation of graduate student classifications, see §202.4.

Term Fee: This is the basic unit of program fee assessment for one term of full-time registration in Winter Session. (For 1990-91 the term fee is set at $747.50.)

Program Category	Total Program Fee
Qualifying Period[1]	Maximum of 2 term fees
Probationary Period[2]	Maximum of 2 term fees
Master's Degree (Cat. A)	2 term fees
Master's Degree (Cat. B)	3 term fees
Doctoral Degree (two-year)	4 term fees
Doctoral Degree (three-year)	6 term fees

[1] Qualifying period program fees are not credited toward the program fees for any subsequent degree program(s) a student may wish to take.

[2] When probationary students are re-classified as candidates for a degree, the program fees assessed for the probationary period are credited toward the program fee for the student's subsequent degree program.

Program fees are assessed in installments. The size of the installment you are assessed at each registration depends upon your registration status (full-time or part-time). The amount you are assessed is credited toward your total program fee, successively reducing the balance you owe. For each term of the session in which you register, the installment is:

Session	Registration Status	Installment payable
Winter or Intersession	Full-time	1 x term fee
Winter or Intersession	Part-time	1/2 x term fee

Individual Course Fees: Students in degree programs who wish to take courses extra to their degree program are assessed individual course fees for all such courses. These fees are normally calculated according to the following formula: fee index value x

units of course weight x 2. (The 1990-91 fee index value is $29.75. The course weight is shown following the title of each course in the Calendar, and is indicated by ★.)

General Fees: All students in degree programs are assessed general fees in addition to instructional fees. See the graduate **general** fee schedule below.

Once you have been assessed your program fee in full, you are assessed a **Post-Program fee** for all subsequent terms of registration. If there is a balance owing on your program fee which is less than the installment that would normally be assessed, you are assessed either that balance or the Post-Program fee, whichever is greater. (For 1990-91 the Post-Program fee was $249 per term.)

b. Special Graduate Students, Visiting Graduate Students, and Postgraduate Diploma Students

Individual Course Fees: Students in these categories are assessed individual course fees. These fees are normally calculated according to the following formula: fee index value x course weight x 2. (The 1990-91 fee index value is $29.75. The course weight is shown following the title of each course in the Calendar, and is indicated by ★.)

General Fees: All students in these categories are assessed general fees in addition to instructional fees. See the graduate **general** fee schedule below.

(2) Differential Fee

Students who are not Canadian Citizens or Permanent Residents are assessed a "differential fee" of an additional 50% of all program fees, post-program fees, and individual course fees. In 1990-91, the differential fee will not be assessed on the post-program fee or the continuous registration fee. If you become a Permanent Resident (Landed Immigrant) during a session, the differential fee will be waived in subsequent terms. Please submit original proof of your change of immigration status to the Faculty of Graduate Studies and Research. The differential fee is not counted toward the total program fee.

(3) 1990-91 Graduate Instructional Fee Schedule

Here is the Instructional Fee schedule for graduate study for the Academic Year 1990-91. **The University reserves the right to change its fees from year to year without notice.** Students who have not completed their program when a change is made are assessed at the new rate for the balance of their program or until a subsequent change in fees occurs.

If you are not a Canadian Citizen or Permanent Resident, you must add the Differential Fee of an additional 50% to all values in this section.

Term Fee = $747.50
Program Fee Installment Payable:
Winter Session or Intersession:
full-time students: $747.50 per term
part-time students: $373.75 per term

Individual Course Fees:
Credit course: $29.75 x course weight x 2
Audit course[1]: $29.75 x course weight

[1]Special Graduate Students are not permitted to audit courses.

(4) 1990-91 Graduate General Fee Schedule

Students are assessed general fees for each term in which they register as shown below. The corresponding privileges conferred are explained in §15.9.

Fee	Full-time Winter Session	Part-time Winter Session	Intersession
Registration	$35/ session mandatory	$35/ session mandatory	$35/ session mandatory
Post Program Fee	$249/term mandatory	$249/term mandatory	$249/term mandatory
Continuous Registration[1]	N/A	$249/term mandatory	$249/term mandatory
Readmission Fee[2]	$598	$598	$598
Library & Computing Services	$69/term mandatory	$23/term mandatory	$11.50/term mandatory
Graduate Students' Association	$25/term mandatory[3]	$18.25/term mandatory[3]	$18.25/ session[4]
Athletic Services	$27/term mandatory[3]	$27/term optional[3]	N/A[5]
Health Services	$12/term mandatory[3]	$12/term optional[3]	$6/session mandatory[3]
Students' Union	$19.38/term optional[3]	N/A	N/A

[1]**Continuous Registration Fee:** Students who wish to keep their program active, but do not wish to register in courses, research projects or thesis research, register in continuous registration. Such students are assessed a continuous registration fee for each term in which they are so registered. (For 1990-91 the continuous registration fee is $249 per term.)

[2]**Readmission Fee:** Students must register at least once in a twelve-month period in either courses, project or thesis research, or in continuous registration. Students who fail to do so must re-apply to their graduate program and be readmitted before they can resume their program of studies. (See §202.3.4.) All readmitted students are assessed a readmission fee ($598 in 1990-91) in addition to all other applicable fees.

[3]Extramural students are not assessed these fees.

[4]Mandatory in Intersession only for those students who were not assessed this fee in the previous Winter Session i.e., either were not registered in the Faculty of Graduate Studies and Research then, or were extramural.

[5] No athletic fees are assessed in Intersession. Athletic privileges are granted during this period to all students with valid ID cards for the current Intersession, or from the previous Winter Session if Athletic Services were paid.

[6] Please consult the Faculty of Graduate Studies and Research.

Graduate students who change their registration from full-time to part-time may be eligible for a reassessment of general fees; **they must, however, present their Student ID card to the Faculty of Graduate Studies and Research office for the appropriate revision.**

Graduate students who change their registration from part-time to full-time are assessed full general fees. **They should therefore present their Student ID card to the Faculty of Graduate Studies and Research office for revision in order to be eligible for full benefits.**

(5) Sample Fee Assessments (1990-91 Rates)

Full-Time, Winter Session, Both Terms, Beginning Program

	1st Term	2nd Term	Total
Program Fee Installments	$747.50	$747.50	$1495.00
Registration Fee	35.00		35.00
Library/Computing Fee	69.00	69.00	138.00
Athletic Services Fee	27.00	27.00	54.00
Health Services Fee	12.00	12.00	24.00
Grad Students' Assoc'n	25.00	25.00	50.00
TOTAL	$915.50	$880.50	$1796.00
(Differential Fee[1]	$373.75	373.75	747.50)
TOTAL	$1289.25	$1254.25	$2543.50

[1] if applicable

Part-Time, Winter Session, Both Terms, Beginning Program

	1st Term	2nd Term	Total
Program Fee Installments	$373.75	$373.75	$747.50
Registration Fee	35.00		35.00
Library/Computing Fee	23.00	23.00	46.00
Grad Students' Assoc'n	18.25	18.25	36.50
TOTAL	$ 450.00	$ 415.00	$ 865.00

Full-time, Winter Session, Both Terms, Post-Program Fee Period

	1st Term	2nd Term	Total
Registration Fee	35.00		35.00
Post-Program Fee	$249.00	$249.00	$498.00
Library/Computing Fee	69.00	69.00	138.00
Athletic Services Fee	27.00	27.00	54.00
Health Services Fee	12.00	12.00	24.00
Grad Students' Assoc'n	25.00	25.00	50.00
TOTAL	**$417.00**	**$382.00**	**$799.00**
(Differential Fee[1]	124.50	124.50	249.00)
TOTAL	**$541.50**	**$506.50**	**$1048.00**

[1] if applicable

Special, Visiting and Post-Graduate Diploma
(Course weight of 3 per term)

	1st Term	2nd Term	Total
Instruction Fee	$178.50	$178.50	$357.00
Registration Fee	35.00		35.00
Library/Computing Fee	23.00	23.00	46.00
Grad Students' Assoc'n	18.25	18.25	36.50
TOTAL	**$254.75**	**$219.75**	**$474.50**
(Differential Fee[1]	89.25	89.25	178.50)
TOTAL	**$344.00**	**$309.00**	**$653.00**

[1] if applicable

(6) Fees Inquiries

The Faculty of Graduate Studies and Research is responsible for the **assessment** of all graduate student fees. Inquiries concerning graduate fee assessments, changes in fees related to program or registration changes, and so on, should be directed to the Fees Coordinator, Faculty of Graduate Studies and Research.

The Fees Division, Office of the Comptroller, is responsible for fee **collection.** Inquiries concerning your Statement of Account, method of payment, and late payment penalties should be addressed to the Fees Division, Office of the Comptroller. Inquiries about payroll deductions of fees from assistantships should also be directed to the Fees Division, Office of the Comptroller.

Inquiries about payment of monthly stipends for holders of graduate assistantships should be addressed to the Payroll Division, Office of the Comptroller.

15.2.3 1991-92 Deadlines for Instructional and General Fee Payment

Summer-term, Intersession	July 3, 1991
First-term, Winter Session:	September 27, 19[illegible]
Second-term, Winter Session:	January 15, 1992
Spring-Term, Intersession:	May 5, 1992

In those rare instances where a student is permitted to register late, the last date for payment of fees is 15 days after the date of assessment.

15.2.4 Penalties for Late Payment of Fees

Nonpayment of fees does not constitute withdrawal from courses: Please refer to §15.1 of this Calendar for instructions on withdrawing from courses.

If fees owing are not paid by the relevant deadline, a certification of your student record (diploma, transcript, Tuition and Education Credit Certificate, etc.) is withheld. You will also not be able to register in any future sessions or make changes to your current registration, until your account has been settled. A late payment penalty of $1[illegible] per month is assessed for each month in which your account is outstanding, to the end of the session. Further information on this topic can be found in §16.9.6.

15.2.5 Obtaining and Paying Your Fee Assessment

(1) Obtaining a Fee Assessment:

Students enrolled in Winter Session pick up their fee assessment at Timetable Distribution; the assessment is printed on the class timetable notice, and is based on the course registrations shown on the timetable.

Intersession fee assessments are mailed to the most recent mailing address provided.

Unclassified Students are given their fee assessment, and are required to pay it when they register.

(2) Obtaining a Revised Fee Assessment

a. **Undergraduate students:** If, after collecting your class timetable, you change the number of courses in which you are enrolled, you must obtain a revised fee assessment. Visit the Registrar's Office desk in the Universiade Pavilion for changes made before the term registration deadline, and the Comptroller's Office (3rd floor Administration Building) about changes made after the registration deadline. Please take your Student ID card with you, so that it can be updated if your registration status has changed. If you delay getting a new assessment, you may incur financial penalties (§15.2.4); information on refunds is given in §15.2.6. Registration deadlines are listed in the Academic Schedule (11), and in §15.2.6.

b. **Graduate students:** If you make registration changes which change your fees, a revised fee assessment will be mailed to you by the Faculty of Graduate Studies and Research. If you are planning to withdraw from all your courses, you should first consult the Faculty of Graduate Studies and Research about the effect on your fees.

(3) Method of Payment

Cheques or money orders should be made payable to the University of Alberta; please write your Student ID number on the cheque. Your fee assessment notice must be presented with payment.

Students registered for a full session may choose to pay fees in two installments, one for each term. First-term fees must be paid by the first-term deadline, and second-term fees by the second-term deadline. **A $25 installment charge is payable with the second installment.**

(4) Where to Pay Fees

a. During Winter Session Timetable pickup on September 4 and 5, fees can be paid in the Universiade Pavilion **by cheque or money order only.**

Once the first term of Winter Session has begun, fees can be paid:

1) in person, at the cashier's wicket of the Comptroller's Office, third floor, Administration Building (hours for September - April, 9.00 - 12.00, 13.00 - 16.00, and for May - August, 8.30 - 12.00, 13.00 - 15.30);

2) by campus mail, by depositing your cheque and fee assessment in the special deposit box on the main floor of the Administration Building, or in the mail slot on the 3rd floor. After hours, you can use the campus mail box located at the front of the Administration Building.

3) by regular mail, to the Comptroller's Office, University of Alberta, Edmonton, AB T6G 2M7.

Fees must be received in the Comptroller's Office by payment deadline, if late payment penalties are to be ided (see §15.2.4). Mail delays will not be accepted as excuse for late payment.

Dishonored Cheques

Payment by dishonored cheque is treated as nonpayt of fees. Please refer to §15.2.4 for consequences. In ition to the penalties outlined there, a **$15 penalty is essed for the dishonored cheque itself.**

Quota Program Deposits

Students who have paid a $50 deposit to confirm their mission to a quota program should deduct this from ir fee assessment total.

Student Loans

Alberta students who need financial assistance are vised to apply to the Students' Finance Board as early possible, preferably from May onward. Application ms are available from the Registrar's Office and the udent Awards Office. Application forms for loan assistance m other provincial governments for students from those ovinces are available from the Student Awards Office only.

Students must be registered full-time for the period of air loan. If your loan covers both terms of Winter ession, you must be registered for credit in courses with combined weight of 9 or more **in each term** in order to ve your loan approved.

How to process an Alberta loan: Students who eceive loan assistance through the Students' Finance oard of the Province of Alberta should submit all copies their Certificate of Eligibility **with their laminated current tudent ID card** to the Comptroller's Office fees wicket on e third floor of the Administration Building or, during imetable pickup on September 3 and 4, to the loans area f the Universiade Pavilion.

The fees due to the University are the first charge gainst the loan. If the amount of assistance awarded is ss than the full amount of fees, the balance of fees owing s subject to normal fee payment regulations and deadlines.

If you process a loan certificate after the September e payment deadline, you will not be assessed a late ayment penalty for September provided you applied to he Board by mid-September, and that the assistance you eceive covers the balance owing on your first-term fees.

(8) How to Process a Loan From Another Provincial Government

Disbursal documents are sent by some governments irectly to their students and in other instances to the Student Awards Office (which will forward them to the Fees Division of the Comptroller's Office). When you receive notification, please report with the documents you have and **your laminated current Student ID card** to the Comptroller's fees wicket as described in the preceding paragraph.

(9) Scholarships, Bursaries and Other Financial Assistance

Students whose fees are to be paid by scholarships, bursaries, or other assistance **processed through the University,** or by Alberta Heritage, Rutherford, or McKinney scholarship funds, should advise the Comptroller's Office well before the fee payment deadline of the amount and source of the award. No late payment penalties will be exacted if the funds do not arrive by the fee payment deadline; however, if the award will not cover the full installment of fees due, the balance must be paid by the normal deadline.

Students who receive direct assistance that is not processed through the University (e.g. a grant from an employer) must follow normal fee payment regulations and meet normal deadlines. Confirmation of enrollment will be provided by the Registrar's Office on request.

(10) Receipts

If you pay by mail, your cancelled cheque is your fee payment receipt. You may request a formal receipt from the Comptroller's Office for such purposes as reimbursement by your employer.

The Tuition and Education Credit Certificate will be available for pick up from the Office of the Comptroller in early February by students whose fees have been fully paid (see §15.2.6). This form replaces the former Education Deduction Certificate and the separate tuition fee receipt.

15.2.6 Obtaining a Refund

See also §15.2.5, Obtaining a Revised Fee Assessment.

Withdrawals: Undergraduate students: Instructional fees are 100% refundable until the registration deadline (see below). From then until the refund deadline, students who formally withdraw from one or more Winter Session courses will receive a 50% refund; there are no further refunds after this date. The effective date of your withdrawal is that on which the Dean of your Faculty signs and dates the required form.

Graduate Students: Consult the Faculty of Graduate Studies and Research to determine the effect on your fees before you withdraw from individual courses, a term, a session, or a program.

Changes from credit to audit: If the change is made during the audit registration period, the assessment for the course will be at the audit rate.

If you have not paid your full fee assessment for the session when you withdraw or change from credit to audit, you may still owe money to the University. Contact the Comptroller's Office (492-3389) for an up-to-date statement of account.

	Credit Registration Deadline	Audit Registration Period	Refund Deadline
Winter Session			
First term	Sept. 11	Sept. 12-16	Oct. 15
Second term	Jan. 10	Jan. 13-15	Jan. 31
Intersession			
Spring-Term	May 7	May 6-7	May 21
Summer-Term	July 3	July 2-3	July 16

If the change to your registration results in a change from full- to part-time status (see glossary), and if your ID card has been updated according to the above deadlines, general fees will also be reassessed, and the difference refunded.

Undergraduate students withdrawing from all their courses will have a $15 administration charge deducted from their refund; students in the Faculty of Graduate Studies and Research should first contact that Faculty, and will forfeit their $35 registration fee.

Please allow six weeks for your cheque to be processed and mailed to you.

15.2.7 Fee Remission Program for Senior Citizens

Residents of Alberta who are aged 65 or over are eligible for complete remission of both tuition and general fees. You must meet normal admission criteria and application deadlines for your chosen program, and must have reached your 65th birthday before the start of the session in which you are registering. Application for Remission forms are available from the fees wicket of the Comptroller's Office, third floor, Administration Building, and must be completed and submitted with your Senior Citizens' identification card, or other proof of age and residency, by the fee payment deadline (see §15.2.6).

15.2.8 1990-91 Schedule of Fees for Special Services

The following are fees for special services; the rates shown are correct at the time of printing, but are subject to change without notice.

Examination and examination-related fees (see §16.5):

Deferred examination (§16.5.6)	$ 15 per paper
Reexamination (§16.5.4)	$ 25 per paper
Special examination (§16.5.7)	$ 90 per paper[1]
Examination conducted at an established centre other than Edmonton	$ 35 (additional) per paper
Final examination reappraisal (§16.5.3)	$ 25 per paper
Credit by special assessment (§13.9.5)	$113 per course

[1]Part of the fee may be waived if you were prevented by illness or other extreme circumstance from writing the examination at the regular time.

Other fees **(payable in advance):**

Official transcript of student record	$ 3 per copy
Replacement diploma	$ 30
Application for undergraduate admission (§14.2)	$ 30 per form
Application for undergraduate readmission or transfer (§14.2)	$ 30 per form
Graduate readmission (§15.2.2)	$598
Graduate thesis microfilming	$ 30
Replacement Student ID card	$ 10

15.9 Privileges Conferred by Payment of General Fees

Additional information and current (1990-91) rates for these fees are given in §§15.2.1 and 15.2.2.

15.9.1 Library and Computing Services Fee

This fee recognizes the costs of maintaining extensive library and computer support systems for the benefit of all students, full- and part-time, on- and off-campus, both directly and indirectly.

15.9.2 Students' Union Fee

Full membership entitles a student to use all Students' Union facilities and services, and grants a student the right to vote and stand for office in Students' Union elections. Associate members may not stand for office, but are entitled to all other privileges. For further information see §15.2.1, or contact the Students' Union Vice-President (Finance & Administration) in Room 259 SUB (492-4236).

15.9.3 Graduate Students' Association Fee

For information contact the GSA Office in Room 206, North Power Plant (492-2175).

15.9.4 Athletic Services Fee

Confers the privileges of using the facilities of the Physical Education and Recreation Centre and of participating in all Athletic Services Programs.

15.9.5 Health Services Fee

Confers the privilege of using University Health Services, which offers a wide range of convenient medical services, including drop-in medical consultation, immunizations, an on-site pharmacy, and reduced costs on prescriptions and dental hygiene. See also §18.1.4.

16 Academic Regulations

16.1 Changes in Regulations

The University reserves the right to make changes in regulations governing degree programs from time to time. All such changes apply to continuing and new students. Where a required course for a degree program is no longer offered, the Faculty may specify an alternate. Students who interrupt their program and who must apply for readmission to the program will be required to comply with any new regulations upon resumption of their studies. **Students should annually refer to the Calendar for appropriate Faculty regulations governing their degree programs.**

16.2 Residence Requirements

A student proceeding towards a first (bachelor's) degree is expected to complete at least half of the credits required through courses offered by the University of Alberta (either "on" or "off" campus in Winter Session or Intersession). Normally, at least half of these "University of Alberta" courses will be taken as the final courses in the program. Credits obtained by special assessment at the University of Alberta may be included in the count of courses used to satisfy the residency requirements. (See §13.9.5 Credit by Special Assessment).

Students should consult their Faculty's section of the Calendar in order to become familiar with time limits for completion of degrees. (See also §13.9.3 Transfer of Credit).

16.3 Universities' Writing Competence Test

16.3.1 Writing Competence Test Policy

The University of Alberta has abolished its requirements that students must pass a writing competence test but remains committed to enhancing the writing skills of students throughout their University career.

Refer to §18.1.9 of this Calendar for information on Effective Writing Resources.

16.4 Evaluation Procedures and Grading System

(1) **Weighting of Term Work and Final Examinations:** In each course in which a final examination is held, a weight of not less than 30 percent and not more than 70 percent will be assigned to the final examination, except where a departure from this arrangement has been authorized by the council of the Faculty in which the department offering the course is situated. The remaining weight for the course will be assigned to term work.

(2) **Guidelines Regarding Term Work:** The following guidelines should normally be followed.

a. Instructors are required by GFC to announce at the beginning of each course the distribution of weight between term work and final examination. In particular, they should provide a course outline and inform students during the first week of classes of any assignment, examination, or other course activity (e.g. class participation) to which 20% or more of the final term mark will be allotted. Instructors are also required to inform students at the beginning of the session that information on reexamination policies may be obtained from individual Faculty Offices.

b. Instructors are required to announce at the beginning of a course the manner in which the official University grading system is to be implemented in that particular course or section, i.e. whether a particular distribution is to be used to determine grades, or whether there are absolute measures or marks which will determine them, or whether a combination of the two will be used.

c. Upon request, instructors are required to provide the method which was used to translate final and, where appropriate, term marks into grades.

d. In addition, instructors should announce the weight given to each assignment, examination or other course activity well before the assignment, examination or other course activity is to be completed by the student.

e. Instructors should allow students a reasonable time in which to complete an assignment, bearing in mind its weight.

f. Instructors should mark and return to students with reasonable dispatch all term examinations and, provided the students submit them by the due date, all course projects, papers, essays, etc.

g. All projects, papers, essays, etc., should be returned on or by the last day of classes in the course, with the exception of a final major project or paper (which may be due on the last day of classes), which should be returned by the date of the scheduled final examination or, in non-examination courses, by the last day of the examination period.

(3) **Procedures for Registering Complaints about Marking, Grading and Related Issues**

a. Where the above guidelines have not been followed or where students have concerns about the instructor's teaching, the student should make the concern known to the appropriate individual in the following sequence:
1) Instructor
2) Chair of the Department in which the course is taught
3) Dean of the Faculty in which the course is taught

b. A student needing advice on these matters should see the student advisers in the Office of the Dean of Student Services.

c. These procedures do not constitute a mechanism for appeals and grievances regarding the academic standing or individual grades of a student. Appeals and grievances of that nature are dealt with in §16.8 of the Calendar.

(4) **The Nine Point Grading System:** An important feature of the nine point grading system is that the marking and grading are done separately. For a large class, examiners should mark the papers and record the raw scores, sort the papers in order of merit, and decide whether the class as a whole is average, above average or below average. They should then determine what percentage of the class should fall into each of the nine possible grades and assign grades accordingly. In small classes, the honors or senior courses, instructors should mark in terms of raw score, rank the papers in order of merit, and with due attention to the verbal descriptions of the various grades, assign an appropriate grade to each paper.

The process of ranking and grading students may be carried out as each assignment and examination is marked, or it may be deferred until all assignments, including the final examination, have been marked. Instructors should announce at the beginning of a course, the manner in which the official University nine point grading system is to be implemented in their particular course.

In the first case, at the end of the term instructors will have a record of each student's grades for all assignments and examinations with the percentage weight assigned to each. They should then assign a term results summary remark and a final grade in the course, rounding off any fractional values that may occur to the nearest full grade.

In the second case, at the end of the term instructors will have a record of every student's marks (raw scores) for all assignments and examinations with the percentage weight assigned to each. They should then compute a term results summary mark based on the student's term mark and final examination. Having computed this for each student, they should then rank the students in order of merit and assign final grades by the process described in the first paragraph of this section.

Since the distribution of grades is not standard, the system should not be referred to as a stanine system, nor should the various grades be called "stanines".

Course Grades Obtained by Undergraduate Students:

	9	Excellent
	8	
	7	Good
	6	
	5	
Pass	4	Satisfactory
Fail	3	
	2	Unsatisfactory
	1	

Course Grades Obtained by Graduate Students:

	9	Excellent
	8	
	7	Good
Pass	6	Satisfactory
Fail	5	
	4	
	3	Unsatisfactory
	2	(see §202.8.2)
	1	

(5) **Grade Point Average (GPA):** All courses have been assigned an appropriate weighting factor, which along with a student's grades, enables the Registrar's Office or the Dean's Office to compute the Grade Point Average. The Grade Point Average is common to all Faculties. This is a sessional GPA only and is reported on transcripts and year-end Statements of Results.

Rules for Computing the GPA:

a. The GPA for any session is based on the final grades in all courses taken during that session including half-courses repeated in the second term and courses extra to the degree program.

b. A reexamination mark or a deferred examination mark replaces the original final examination mark. The revised final grade is included in the computation of the GPA. The Faculty of Law is exempt from this policy as reexaminations are graded by the Faculty on a pass/fail basis. The following will apply to the Faculty of Law:
1) The original grade will be retained in the computation of the GPA after the reexamination;
2) Where a reexamination is graded as a pass the remark "CR" will be noted on the transcript to indicate Completed Requirements in the reexamination course.
3) The remarks "R" and "D" will be noted on a transcript to indicate that a reexamination or deferred examination was written in the course.

c. When a student has an Absent-Deferred, Incomplete or a missing grade, the GPA is not computed until a final grade is reported.

d. Alphabetical grades of ABF, WF, INF, and DB are counted as numeric grades of 1 in the computation of the common GPA. Faculties are, however, strongly encouraged to compute a numerical grade based on the student's total work even when the student misses the final examination.

e. Alphabetic grades of W (withdrawal) are excluded from the computation of the GPA on the transcript.
Note: Effective September 1988, the symbol AB is no longer a valid final grade. Instead, numeric grades are to be assigned with the remark of "A" indicating that the student has not written the final examination and the grade includes a mark of zero for the missed final examination, or, that the student failed to complete a significant portion of term work or both.

f. Grades of Credit-No credit and Pass-Fail are not included in the computation of the common GPA.

g. The common GPA is rounded to the nearest decimal place using standard rounding rules - that is it is rounded up with a value of 5 or greater in the first non-significant place.
Note: Faculties may use a variety of different averages for various decisions regarding academic standing, promotions, and graduation, as long as these have been approved by General Faculties Council. Such averages are descriptively labelled with a title other than Grade Point Average, for example, Cumulative Grade Point Average, Promotion Average, Graduation Average.

(6) **Aegrotat Standing:** Aegrotat standing may be granted, in special circumstances, on the grounds of illness to deserving students who have completed at least one year at the University of Alberta in the Faculty in which they are currently registered. Any student wishing to take advantage of this privilege should apply without delay to the dean of the Faculty concerned. Any other student absent from a final examination because of illness may apply for permission to write the regular deferred examination.

(7) **Competence in Written Work:** General Faculties Council urges all instructors of University undergraduate courses to provide that suitable portions of course testing or other course work should be in the form of written essay responses and to emphasize to students that competence in written work is integral to competence in a subject and will constitute part of the basis on which the student's course grade is determined.

All instructors should make clear at the outset of each course their expectations in regard to the standard and importance of writing in assignments and examinations.

(8) Student grades are unofficial until they have been approved by the appropriate Faculty Council at the end of the session. Prior to approval by Faculty Council, unofficial grades are reported on transcripts and so noted. Students can generally expect that official grades will be available in early June for the Winter Session, and early September for Intersession. A Statement of Results is mailed to students following the approval of grades for each session.

16.5 Examinations

16.5.1 Term Examinations

(1) **Term Examinations Optional:** The holding of term examinations is optional with each department.

(2) **Test Week:** Although instructors may give tests during any regular lecture or laboratory period at their discretion, one week in the middle of each of the First

Term and the Second Term has been set aside as test week. During these weeks, off-campus, extra-curricular activities will not normally be organized by the University.

Absence from Term Examination or Test: If a student has an unexcused absence from a term examination or test, the raw score assigned will be zero. However, in case of illness or other extreme circumstance the student may be excused from writing the examination or test. In applying for exemption, students must present to their instructor an absence slip signed by University Health Service where the cause is illness, or by the Schedules Division/Examinations and Timetabling, Office of the Registrar where the cause is other than illness. When exemption is granted the percentage weight allotted to the examination or test missed is added to the percentage weight allotted to the final examination.

6.5.2 Final Examinations

Final Examinations: A final examination is held in each course except where departure from this arrangement has been authorized by the Faculty council governing the department offering the course. In courses completed in the First Term, final examinations are normally held during test week in December. Final examinations for second-term and full-session courses are held at the end of the session. Examinations for Evening Credit Program and Late Afternoon and Evening Courses are to be held during the last regular class period.

(2) **Absence from Final Examinations:** Any student who is ill or suffering from severe domestic affliction is advised not to sit for a final examination. A student who has missed a final examination because of illness or domestic affliction or who is obliged to be absent from an examination for some other compelling reason (including religious convictions) may apply for a deferred final examination. Documentation pertaining to such an absence must be submitted to the Registrar within 48 hours, following the examination period or periods for the course or courses affected (see §16.5.6). Similar action should be taken by any student, who, because of religious convictions or for other cogent reasons, is unable to write a final examination at the scheduled time. Such application will be referred to the student's Dean for a final decision.

When a student is absent from a final examination without acceptable excuse, a final grade will be computed using a raw score of zero for the final examination.

(3) **Cancellation of Paper During Examination:** If a student becomes ill or receives word of domestic affliction during the course of an examination, he or she should report at once to the Supervisor, hand in his or her unfinished paper, and request that it be cancelled. Thereafter, if illness is the cause, he or she must go directly to University Health Service so that any subsequent application for a deferred examination may be supported by a medical certificate. The Registrar should be notified in writing of the circumstances within 48 hours of the examination.

(4) **No Subsequent Cancellation of Papers:** Should a student write an examination, hand in his or her paper for marking, and later report extenuating circumstances to support a request for cancellation of his or her paper and for another examination, such request will not be entertained.

(5) **Debarment from Final Examination:** A student may be refused permission to write the final examination in a course on the recommendation of the department concerned and with the concurrence of the dean of his or her Faculty, in the following circumstances:

a. The student has neglected to do a substantial portion of his or her written assignments in a course of which these are an essential feature, or has attended insufficiently in a course in which class participation is a necessity.

b. The student has neglected to do a sufficient amount of the practical or laboratory work in a course in which these are considered a basic requirement.

(6) **Release of Final Examination Papers:** Departments subscribing to the belief that there is educational value in permitting students to see their final examination papers after they have been marked, may arrange for this to be done. However, papers should not actually be released to students until the deadline for application for reappraisal has passed, as an appeal cannot be entertained after the custody of the paper has been relinquished to the student.

16.5.3 Notification of Results

(1) **Release of Grades:** Only the Registrar's Office is authorized to issue **official** statements of results or transcripts. An official statement of final grades in courses for a session is provided to each student by the Office of the Registrar. For students who did not register in the second term of the Winter Session, official statements are mailed in early February.

Department Chairs ensure that **unofficial** grades are posted immediately after the approved Examination Return is sent to the Office of the Registrar, using the posting copy of the Examination Return, or in any other manner that protects the confidentiality of individual student grades. In courses that are completed before the regular end of term, Departments release unofficial grades to students within six calendar days of the last exam or assignment deadline in the course. (For the Faculties of Dentistry, Law, and Medicine, grades should be posted no later than the third day of classes in the second term for first term courses, or May 31 for second term or full session courses.)

(2) **Reappraisals:** Since great care is taken in marking final examination papers, a student should apply for reappraisal of a paper only if he or she has good reason to believe that a mistake has been made. Reappraisals are dealt with by the Chair of the department in consultation with members of the staff. A request for reappraisal must be made by letter to the Registrar (or by completion of an application form available at Examinations and Timetabling, Registrar's Office, Room 120, Administration Building) by February 1 in the case of First-Term courses, by June 25 for other Winter-Session courses, and within thirty days of the publication of results for courses offered in Intersession. The request must include a statement of whether the intent of the appeal is to raise or lower the grade. If a student fails to include such a statement it will be assumed that the intent is to have the grade raised. The request must be accompanied by a fee of $25.00 for each paper; the fee will be refunded if the appeal is successful.

The privilege of having papers reappraised applies only to final examinations. A student may apply for reappraisal of no more than two final examination papers in each term of the Winter Session. A student enrolled in the Intersession will be limited to two reappraisals.

It should be understood that if the grade is changed, the new grade, whether higher or lower than the original, replaces it as the student's official grade in the course.

16.5.4 Reexaminations

(1) **Supplemental Examinations**: Supplemental examinations have been abolished at the University of Alberta. Faculties have established criteria whereby undergraduate students in special circumstances may be permitted reexamination. Students should consult their Faculty section of the calendar for details.

(2) **Reexamination**

a. Students wishing to apply for a reexamination should:

1) ensure that they meet the eligibility criteria for reexamination in both the Faculty offering the course and the Faculty in which they are enrolled.

2) complete an application form (available at Examinations and Timetabling, Office of the Registrar, Room 120 Administration Building).The application deadline is July 15th. However, students are advised to apply early, in order to obtain the necessary approvals. Students in the Faculties of Dentistry, Law, or Medicine should consult their Faculties.

3) have the application for reexamination approved by the chair of the department offering the course.

Departmental approval indicates that a paper can be set, subject to approval by the dean of the student's Faculty.

4) have the application for reexamination approved by the dean of their Faculty.

Students are advised that it may not be possible for the dean to make a ruling until all grades are recorded for the session. In this case, the form should be left with the Faculty office for a later ruling.

b. If immediate approval is given, the student should return the approved application and fee to the Access Centre, Office of the Registrar, Administration Building.

Otherwise, when a ruling is made, the dean's office will send the form to Examinations and Timetabling who will advise the student and request appropriate fee payments where necessary. Once approval has been granted, reexaminations are to be written as follows, except for students in the Faculties of Dentistry, Law, or Medicine, who will be reexamined at a time determined by their Faculties.

Reexaminations are to be written at a time and place agreed upon by the instructor and students concerned.

If it is not possible to reach mutual agreement as to the date of writing, then the student should advise the Examinations and Timetabling Office so that the examination can be scheduled during the regular reexamination period, August 6-10, 1991. An examination timetable will be mailed in late July to those who apply to write a reexamination in August.

(3) A special reexamination may be granted to a student who is prevented by illness, domestic affliction, or other extreme circumstances from writing at the regular time, if approved by the dean concerned. Application with supporting documentation must be made to the Registrar three weeks before the special examination is to be written, and must be accompanied by the prescribed fee. Special examinations are normally written at the University of Alberta on the first Saturday following Labor Day in September.

(4) Applicants should consult §15.2.11 for fee information.

16.5.5 Failure in the Graduating Year

A member of the graduating class who, having exhausted all the regular reexamination privileges, still has a failure in one course only, may, with the permission of the Faculty Council concerned, register in and repeat that course extramurally, unless, in the opinion of the department concerned, it is necessary for him or her to attend classes in the course a second time.

16.5.6 Deferred Final Examinations

(1) **Deferred Final Examinations:** A student who has missed a final examination because of illness or domestic affliction or who is obliged to be absent from an examination for some other compelling reason (including religious convictions) may apply for a deferred final examination.

Students wishing to apply for such an examination must:

a. complete an application form (available at Examinations and Timetabling, Office of the Registrar, Room 120, Administration Building). The application must be supported by a satisfactory medical certificate in the case of illness or other documentation substantiating the reason for an absence. The application and the documentation pertaining to the absence must be presented to the Registrar within two working days following the examination period or as soon as the student is able having regard to the circumstances underlying the absence;

b. have the application for a deferred final approved by the dean of their Faculty;

c. have the application for a deferred final signed by the instructor (or the department chair, or designate, if the instructor is not available); and

d. return the approved application to the Registrar (Examinations and Timetabling, Room 120, Administration Building), within two working days of initiating the application. The approved application must be accompanied by the prescribed fee.

(2) **Deferred First-Term Final Examinations:** The time and place of the first-term, deferred final examination may be set by mutual agreement among those students who have missed the final examination for good cause and the instructor. The examination, for students in Faculties other than Law, must be held as soon as possible but not later than Reading Week, unless an extension is granted by the student's Faculty; **Law** students will write the examination in February.

(3) **Deferred Second-Term and Full-Session Final Examinations:** Any student who is granted a deferred final examination in a second-term or full-session course by his or her dean, may write that examination as soon as possible after the end of the second term at a time and place mutually agreeable to the student and the instructor and any other students in the

course who are requesting the same privilege. The examination must be held as soon as possible but not later than June 15th unless an extension is granted by the student's Faculty.

(4) **Deferred Examinations not written by Reading Week (for first-term finals) or by June 15 (for second-term and full-session finals):** Students who have applied for a deferred final examination in accordance with the guidelines in this section, but who have, for justifiable cause, not written the examination by the dates specified above, may reapply to write during the regular reexamination/deferred examination period which is in August for students in Faculties other than Law and in the third week of June for Law students. Applications to write in August must be submitted by July 2, the date specified in the Academic Schedule, §11.

16.5.7 Special Examinations

A special, deferred final examination may be granted to a student who is prevented by illness (supported by a medical certificate), domestic affliction, or other extreme circumstance from writing a deferred final examination at the regular time. Application must be made to Examinations and Timetabling, Office of the Registrar, Room 120, Administration Building a full month before the special examination is to be written, and must be accompanied by the prescribed fee (see §15.2.11). Special examinations are normally written on the Saturday following Labor Day. In certain approved cases they may be written during the regular examination periods in April, May, or August.

16.6 Academic Standing

The term "academic standing" relates to matters such as transfers from one program to another within a Faculty, continuation in a program, graduation, and the requirement for a student to withdraw. Unless stated otherwise, changes to academic standing regulations affect new students, continuing students, and students readmitted to a program or Faculty. Students should refer annually to the Calendar for the academic standing regulations governing their degree programs.

16.6.1 First-Class Standing

First-class standing in a given year shall be awarded to any undergraduate student who obtains a grade point average of not less than 7.5 while enrolled in a full, normal, academic course load in that year: the definition of a full normal academic course load shall be left to the Faculty concerned.

16.6.2 Degrees with Honors

A student in the Faculty of Arts or Science with approved qualifications may proceed to the degree of Bachelor of Arts or Bachelor of Science with Honors by following a more concentrated course of study in a special field under the supervision of one of the departments. The time required for an honors degree is four years from senior matriculation. Degrees with Honors are awarded in two classes: First Class Honors, and Honors, in accordance with the requirements of the Faculty and department concerned.

16.6.3 Degrees with Distinction

At the discretion of the Faculty concerned, the notation "With Distinction" is inscribed on the permanent record and graduation parchment of a candidate for any degree, except an honors or graduate degree, if the candidate has obtained a grade-point average of 7.5 or higher over the last two years of the program.

16.6.4 Promotion

Subject to the control of General Faculties Council, promotion regulations are set by the Faculties of the University. Details will be found in the Faculty Regulations section of the appropriate section of this Calendar.

16.6.5 Unsatisfactory Standing

(1) Students who have been admitted to the University with a weak matriculation record may be warned of the fact at the beginning of their first session.

(2) The records of all students are reviewed at the end of each session. Students whose records are found to be unsatisfactory will be notified by their dean and may be referred to Student Counselling Services for counselling. They may be required to repeat their year. Students whose records are extremely unsatisfactory may be required to withdraw from the Faculty, and normally at least a year must elapse before readmission to the University will be considered.

(3) Students who have been required to withdraw must apply for readmission to the dean of the Faculty in which they propose to register. The dean may require a student to undergo counselling as a part of the process for obtaining readmission. Students seeking readmission must report their intention by letter to the dean not later than mid-June of the year in which readmission is sought. The letter should include an explanation of their previous difficulties and indicate why the applicants believe that they may now be successful.

(4) Students with an extremely unsatisfactory record at another university will not be considered for admission to the University of Alberta until at least a year has elapsed from the date of their leaving their former university. Thereafter, the procedure outlined in (3) will apply.

16.6.6 Scholastic Standing and Extracurricular Activities

Every student, prior to accepting nomination for any position on the Executive Committee of the Students' Union or as the Board of Governors representative, shall be required to obtain a statement of academic eligibility from the dean of his or her Faculty. This statement shall be filed with his or her nomination papers.

To be eligible (1) to represent the University in any competition with outside organizations, (2) to participate in non-competitive University activities which are open to the general public, or (3) to be eligible to hold office in a recognized student organization, a student must be a registered student taking at least one course for credit during each term and must meet the requirements of satisfactory scholastic standing as defined by the Faculty.

16.7 Attendance

Since presence at lectures, participation in classroom discussions and projects, and the completion of assignments are important components of most courses, students will serve their interests best by regular attendance. Those who choose not to attend must assume whatever risks are involved. In this connection the attention of students is directed to §§16.5.1(3), and 16.5.2(5) of this Calendar.

16.8 Appeals and Grievances

General Faculties Council (GFC) is the university governing body which has statutory authority over academic matters and student affairs.

16.8.1 Academic Standing Appeals

GFC has instructed each Faculty to publish in its section of the Calendar the regulations which affect a student's academic standing, a notice that such decisions are appealable, and information as to where the Faculty-level appeal regulations may be obtained.

In addition, General Faculties Council has established an Academic Appeals Committee and has delegated to it authority to hear appeals from students against Faculty decisions which affect their academic standing. An appeal may be made only on the basis that there has been a miscarriage of justice.

Students must exhaust the provisions for appeal within their own Faculty before taking an appeal to the GFC Academic Appeals Committee.

The GFC Academic Appeals Committee is not authorized to hear a number of matters, including an appeal from a decision respecting a mark or grade in an individual course, from an examination decision made in the Faculty of Graduate Studies and Research, from a decision to refuse admission to a Faculty, or a decision relating to credit for courses taken or to be taken outside the University of Alberta.

For further information regarding appeal procedures at the Faculty level, including deadlines for filing an appeal, students should seek the advice of their de
Students who have been unsuccessful in appealing at Faculty level and who wish to appeal to the GFC Acade Appeals Committee should consult the Secretary to G eral Faculties Council in order to learn the procedures be followed and the deadlines to be met.

If students are unsure of the validity of their grievar or procedures of appeal they should contact the Stud Adviser in the Office of the Dean of Student Services.

16.8.2 Grievances Concerning Grades

The assignment of marks and grades is the inh responsibility of a course instructor. Any grievances co cerning grades should first be discussed with the instru tor. If the problem is not resolved, the student is encourag to talk with the Chair of the Department where the cour is taught, and then with the Dean of the Faculty where t course is taught.

This informal process is meant to precede and avoid formal appeal, but does not preclude formal appe to the Faculty Council. If students are unsure of the validi of their grievance or procedures for appeal, they shou contact the Student Adviser in the Office of the Dean Student Services.

16.9 Student Records

16.9.1 Contents of Files

(1) Only letters and documents pertinent to a student admission and academic record may be kept in th official files of the Registrar, the Deans, and th Department Chair.

(2) Application for Admission forms of any Faculty requi ing letters of reference must contain a statement t the effect that the Faculty reserves the right to solic information from persons other than those named b the applicant as referees provided the student i advised of the names or the offices consulted a additional referees.

16.9.2 Transcripts

(1) Students are responsible for ensuring the accuracy and completeness of their official record at the end o each session that they attend by verifying thei Statement of Results and the copy of their transcrip provided during Winter Session registration and a convocation. Students should be aware that only the official transcript is retained permanently and that source documentation (the student file in the Registrar's Office), is destroyed seven years after the last registration. Queries regarding errors or omissions on the official transcript must be made as soon as possible, and will not be considered after the source documentation has been destroyed.

(2) The University of Alberta transcript includes the following information for each student record:

a. student name
b. student previous name(s)
c. student ID number
d. student birthdate
e. date of issue of transcript
f. degrees and awards granted
g. admission status and basis of admission
h. credit granted from other institutions or programs
i. Faculty and degree program of registration
j. course information, including for each course: session and term, course name, number, title, grade, course weight, course units (Engineering students), grade points, hours of instruction index, class average and class enrollment
k. total weights and grade points used to calculate GPA
l. grade point average calculation
m. comments pertaining to academic standing in the program
n. withdrawal date, if appropriate
o. disciplinary record of suspension or expulsion, if appropriate

(3) For further information regarding grades or GPA, refer to §16.4, Evaluation Procedures and Grading System.

(4) **Units of Course Weight:** Course weight is assigned for the purpose of calculating a weighted (grade point) average. Normally a full-course carries a weight of 6.0

and includes three hours of lecture per week for the entire session; a half-course carries a weight of 3.0 and includes three hours of lecture per week for one term.

Course Hours of Instruction Index: The Hours of Instruction Index is a weighted value based on the number of instruction hours per week as follows: total hours per week of lecture plus half the hours per week of all other types of instruction. For example, a full course with three hours per week of lecture and three hours per week of seminar for two terms would have an hours of instruction index of 9.0. A course weight of 6.0 may be considered as equal to six semester-hours or nine quarter hours.

Units: Units are used only for students in undergraduate programs in the Faculty of Engineering. Units are normally calculated in the same manner as the Hours of Instruction Index for courses offered by Engineering and for required courses offered by other Faculties; for other courses, the unit value of a course is normally the same as the units of course weight.

Grade Points: Grade points for undergraduate students are calculated by multiplying the course grade by the units of course weight, or the course grade by the course unit value for undergraduate Engineering students. Grades, weights, and grade points not used in the calculation of the GPA are so indicated by brackets on the transcript.

.9.3 Registration Deadlines Implication for Records

In Winter Session students have five class days following the commencement of classes in the term in which to make changes to their registration without penalty. Courses dropped during this period are deleted entirely from a student's record. Course withdrawals following this period and up to the last day for withdrawing from courses for that term result in a grade of W (withdrew) being recorded on a student's record. Grades of W are not included in the calculation of the Grade Point Average (GPA).

Courses which are dropped following the deadline for the last day for withdrawing from courses for that term result in a grade of WF (withdrew failing) being assigned for the course(s) by the student's Faculty. Grades of WF are counted as numeric grades of 1 in the computation of the GPA on the transcript.

) Pass/fail (credit/no credit) courses which are dropped following the deadline for the last day for withdrawing from courses for that term result in a grade of F (fail) being assigned for the course(s) by the student's Faculty. Grades of F are not included in the calculation of GPA.

) When a student withdraws from one or more courses after the first week of classes, fees will be reassessed on a per course basis with the fee for each dropped course prorated in accordance with the table noted in §15.2.5 of this Calendar.

) §11 (Academic Schedule) of this Calendar contains the specific dates for the change of registration and course withdrawal dates noted above.

6.9.4 Student Files

1) Official transcripts of a student's academic record are issued by the Office of the Registrar upon written request of the student. Transcript request forms are available at the Student Access Centre, main floor, Administration Building. Transcripts are issued to the student personally or to whomever the student designates. Transcript fees are payable when the request is made. An official transcript bears the original signature of an authorized member of the Registrar's staff and the official seal of the University imprinted over the signature.

2) Unofficial copies of the student's academic record are issued in the form of a sessional Statement of Results to the student; to the student's Dean, and to the Chair of the Department or designee, in the case of a student registered in a specialized, honors or graduate program. An unofficial transcript or copy of the student's academic record bears neither an original signature nor the University seal.

(3) Unofficial copies of the student's academic record may be issued to the following at their request: the Dean of a Faculty to which a student wishes to transfer; Student Counselling Services, when a student has been referred for counselling by an authorized officer of the University; and the Student Awards Office, where an award made through a University scholarship committee is involved, on the understanding that information regarding the student's academic record will not be furnished to the scholarship donor without the student's consent.

(4) Unofficial copies may be issued at the student's request to other offices or individuals in the University.

(5) Public information regarding students, such as dates of attendance, place and date of birth, city and home address, verification of degree, or degrees awarded may be issued at the discretion of the authorized officer of the University to educational institutions, appropriate government agencies, prospective employers, and scholarship donors.

(6) Academic and disciplinary records are separate. The only disciplinary action that will be documented on a student's academic record is one involving the student's suspension or expulsion from the University. There is to be only one official disciplinary record. Prior to January, 1974 disciplinary records were kept by the Dean's Council. Since that date they have been kept in the custody of the Student Discipline Officer, who is responsible for implementing University disciplinary procedures, and who reports to the General Faculties Council. The only persons having access to such records will be those directly concerned with the action.

(7) Where access to academic records is sought for the purpose of statistical research, such access may be granted by the Executive Committee of General Faculties Council on such terms as may be necessary to ensure the confidentiality of individual student records. Research on student data will be defined as not being within the normal administrative operation of the University. In case of doubt as to what may fall within "the normal administrative operation of the University," the GFC Executive Committee will decide.

(8) Where information is sought for the purpose of biographical research, it may be released at the discretion of the Registrar, subject to the following conditions:

a. for records less than 50 years old, the researcher must provide a release from the student or estate, or receive permission to obtain the information from the Executive Committee of GFC;

b. for records more than 50 years old the Registrar will, at his discretion, provide the information;

c. the researcher will not be permitted direct access to records, but must submit requests for specific information;

d. decisions made by the Registrar may be appealed to the Executive Committee of GFC.

(9) Upon request, a student shall have access to any document other than confidential material, within an official file bearing the student's name. Confidential material is that solicited or released by the student (eg. letters of reference provided to an Admissions Committee are confidential).

16.9.5 Letters of Reference and Records

(1) The contents of letters of reference regarding a student will not be revealed to the student without the permission of the referee. Letters of reference will be used only for the express purpose for which they have been supplied unless the permission of the referees and the student concerned has been given for other purposes.

(2) Where students have gone on their own initiative as a patient to University Health Service, or as a client to Student Counselling Services, the contents of their files are private, in accordance with professional ethics or codes of behavior.

(3) Where a student has been referred by an authorized officer of the University to the University Health Service or to the Student Counselling Services, the consultant's opinion will be reported to the authorized officer if the student gives written permission to do so. Such written permission shall be granted when the student signs a release form, the nature of which will be determined by the Service in question. The nature and content of any report provided by the consultant will be determined by the ethics and codes of behavior of the consultant's profession. If the student authorizes the consultant to release a report, the consultant may, at his or her discretion, discuss the contents of the report with the student.

(4) Confidential information regarding a student's record may be divulged by a Faculty member or authorized officer of the University to institutions, agencies or prospective employers only with the student's knowledge and consent. A Faculty member, when called upon to do so, may use discretion in expressing an opinion to such institutions, agencies or prospective employers concerning a student's academic ability, character and personality. However, a record of the opinion so expressed will not become part of the student's file.

Exceptions to Stated Policy

Students who object to the release of information regarding their academic record in accordance with the policy stated above should notify the Registrar in writing, giving their specific objections. Appropriate action will be taken by the Registrar, who will so advise the student.

16.9.6 Withholding of University Documents

In any case where a student has neglected or refused to pay amounts owed to the University, the Registrar has been empowered and directed by the Board of Governors to withhold registration materials, student examination results, or other indicators of academic attainment, until the student has settled the account with the University or has made arrangements satisfactory to the University to do so. For example, certification with respect to the student's academic attainment or registration materials may be withheld if the student owes the University for library penalties or fines; for purchases at the University Bookstore; for parking or traffic violations; for breakage or damage to laboratory facilities or supplies; for student fees and University of Alberta Emergency Student Loans; for room and board fees; for fees for reexamination or deferred final examinations; or for fines imposed by the Dean of Student Services or the University Appeal Board.

17 Graduation

On the recommendations of the Faculty Councils, degrees are conferred by the Chancellor of the University at a Convocation of the Faculty, alumni, graduands, and their guests. Convocations for the conferring of degrees are normally held in early June and mid-November of each year.

18 Student Services

18.1 Student Services

18.1.1 Dean of Student Services

The Dean of Student Services is the senior administrator in charge of a number of administrative units working in the area of student services. These include the Office of the Dean of Student Services, the Office of Native Student Services, University Health Services, Student Counselling Services, Advisory Services Centre, the International Centre, Career and Placement Services, the Office of Disabled Students Services, and Effective Writing Resources.

The Dean chairs the Council on Student Life which is comprised of representatives from various service units on campus, the teaching Faculties, the University administration and the student body. The Council ensures cooperation and coordination between all aspects of student services, and serves as a forum in which matters affecting students can be considered and recommendations made to the appropriate University authorities.

The Office of the Dean of Student Services, located at 245 Athabasca Hall, handles club registrations, administers University liquor regulations and permits, houses the Student Discipline Officer, and plays a major role in the administration of the Code of Student Behavior.

18.1.2 Native Student Services

The Office of Native Student Services serves both the University and the wider community. It is a student service which is complementary to counselling, remediation and other student services within the University. The Office provides an orientation for new students, is a resource for the Aboriginal Student Council, and offers meeting and study rooms for student use. The office awards bursaries and prizes based on academic achievement. It assists students in all aspects of university life. Its main function is to make the University more accessible to Native students.

Native Student Services offers the Transition Year Program to a selected number of students each year. This program provides tutorial and counselling support for mature students during their first full university year.

Enquiries are welcome at the Office of Native Student Services, 124 Athabasca Hall, University of Alberta, Edmonton, T6G 2E8 (Telephone 492-5677).

18.1.3 University Health Services

Comprehensive medical care is provided throughout the year by the University Health Service. A fee is assessed (See §201.4.2) to cover in part pharmaceutical and other ancillary services not paid for by the Alberta Health Care Insurance Commission.

Fully qualified medical and nursing personnel staff the Health Service, located on the corner of 111 St. & 88 Ave., immediately south of the Law Centre.

Details of the range of services provided may be obtained by contacting the Nursing Supervisor at 492-2612.

18.1.4 Student Counselling Services

Counselling is offered on a confidential basis to students and to prospective students throughout the year. There is a minimal fee for vocational testing, but no charge for other services. Students wishing to see a counsellor are advised to arrange an appointment in advance.

Although counselling regarding vocational and program choice is available to prospective students during or after completion of their Grade XII year, concerns with selection of individual courses or options should be directed to the Dean of the Faculty in which the student intends to register.

University students may use the services for any of the purposes indicated below:

(1) **Learning Skills:** Assitance with learning skills is available through individual interviews, handout materials, and audiotapes.

(2) **Vocational Planning:** A counsellor may be consulted about future plans, including future professional training. Tests and other means of vocational assessment are available when deemed appropriate by the counsellor.

(3) **Personal Problems:** Sometimes a student's performance may suffer because of worry, restlessness, inability to concentrate, or preoccupation with other personal problems. In such circumstances personal counselling is available.

(4) **Change of Faculty:** Students contemplating a change of Faculty may wish to consult a counsellor. This action should preferably be taken as early as possible before the beginning of the next University session. Students wishing to transfer to a Faculty other than the one in which they are currently enrolled should note the transfer regulations as specified in the appropriate Faculty section of this Calendar.

For further information or to arrange an appointment, telephone 492-5205 weekdays between 8:00 am and 4:00 pm, May 1 through August 31; and between 8:30 am and 4:30 pm, September 1 through April 30; or write to the Director, Student Counselling Services, 102 Athabasca Hall, University of Alberta, Edmonton, Alberta T6G 2E8.

18.1.5 Advisory Services Centre

The Advisory Services Centre is a unit of Student Counselling Services. It has two major focuses: (1) assisting students with both academic and non-academic appeals, and explaining rules and procedures within the University regarding student conduct; (2) providing emergency loans of normally up to $300.00 to full-time students who run into unexpected emergencies, and a limited number of special bursaries to students who demonstrate financial hardship. The Centre produces the *Advisory Services Centre Handbook; Guide to Advisory and Counselling Services on Campus*; and a number of brochures on academic regulations, the appeals process, emergency loans, and special bursaries. These brochures are available at the various student information desks, including the Student Access Centre. The Advisory Services Centre is located in Room 235 Athabasca Hall (492-2735).

18.1.6 International Centre

The International Centre encourages an international dimension throughout the University of Alberta campus.

Services

A major purpose of the Centre is to provide information and assistance to foreign students so that they will adjust well to their new culture and achieve their educational goals. The Centre offers orientation and re-entry workshops; provides limited financial assistance; assists CIDA, Commonwealth and other scholars; provides information on Canada immigration matters; provides advising on concerns ranging from the personal (specific) to the academic (general); and conducts referral, liaison, advocacy, and research regarding foreign students and the issues that concern them.

Programs

Through programs offered by the Centre, the University community has the opportunity to interact with students from other countries. A major thrust of programs is to promote international students as "living resources" on campus and to increase the level of global understanding by exploring issues in development. Programs range from the lunchtime "Passport to the World" program (Winter Session) to the Host Family Program, which pairs foreign students and Canadian families. The Centre also coordinates the annual International Week on campus, a week of presentations, displays, and activities profiling the International expertise and interests of the Unviersity.

Study Abroad/Exchanges

The Centre offers a study abroad/exchanges program enabling Canadian students to gain valuable experience overseas, often while completing their degree at the University of Alberta. The program includes the administration of several academic student exchanges with institutions overseas, the annual Overseas Options Week in October, Overseas Opportunities Room containing information on study/work and volunteer opportunities overseas as well as workshops and advising sessions throughout the year.

The Centre has several publications, including *International Centre NEWS* , *Foreign Student Handbook*, and *Guide to International Exchanges*. The Centre is open Monday - Friday from 8:30 am - 4:30 pm and until 9:00 pm on Thursdays throughout the Winter Session; 8:00 am - 4:00 pm throughout the Intersession. The International Centre is located at 172 HUB International (Ground Level). Telephone 492-2692. FAX: 492-1134.

18.1.7 Office of Disabled Students Services

The University of Alberta has a tradition of encouraging academically qualified disabled persons to seek admission to its programs. It has also demonstrated its commitment to provide support services to disabled students to enable them to access fully University facilities and successfully complete its programs. In assisting disabled students, the University's criteria for academic excellence will not be compromised.

Although the primary responsibility for the provision of services rests with the Office of Disabled Student Services, the provision of a supportive physical, academic and social environment is the responsibility of the entire University.

To achieve its goal of attracting and retaining qualified disabled students, the University commits itself to the following objectives.

(1) The University of Alberta will ensure that disabled persons are considered for admission to any programs for which they are academically qualified within the quota restrictions of programs.

(2) Where warranted, and without compromising its academic standards, the University will modify program courseload, examination procedures, and other academic requirements to permit disabled students to complete their programs.

(The above is an excerpt from the policy adopted by the University of Alberta General Faculties Council on September 26, 1988. For a copy of the complete Disabled Student Policy, contact the Office of Disabled Student Services.)

Students with physical, sensory or learning disabilities are invited to contact the Office of Disabled Student Services, Room 300, Athabasca Hall, 492-3381 (voice or TDD) or 492-7269 (TDD only) for information or assistance. The office coordinates the efforts of various University departments and off-campus agencies in meeting the special needs of students with disabilities and provides support services relevant to program access and participation in campus life. A wide variety of services are available, including orientation to the University, program planning, sign language interpreting arrangements, and financial and personal advising.

Through an extensive Volunteer Program, the Office also offers the following kinds of volunteer assistance: notetaking, exam writing, taping of readings, escort or study help, tutoring, library research help, mobility assistance and special project help.

A Disabled Student Handbook, Faculty guide, campus accessibility map, tactile map of the campus (for blind students), and specialized aids and equipment, including personal computers, are available for student use.

The office is the contact point for students sponsored by the Alberta government's Vocational Rehabilitation Disabled Persons (VRDP) program.

Early contact by those considering attending University of Alberta or by those admitted will assist easier transition to the University. Orientation for disabled students will take place September 4, 1991. Phone 3381 (voice of TDD) to register.

The Office of Disabled Student Services is located Room 300 Athabasca Hall.

18.1.8 Career and Placement Services (CaPS)

Career and Placement Services is a University-operated career centre which offers career planning services to students and alumni. While the centre is managed and operated by Unviersity of Alberta staff, it receives financial support from the Students' Union as well as from the University.

CaPS offers a variety of programs and services to maximize the intereaction between the students, alumni and the employer community. Students at all levels of their studies are encouraged to use the services of CaPS to develop their job/career search skills for summer, part-time, and permanent employment. CaPS also has a specialized recruitment program developed to assist employers in their recruitment of students and enable them to meet with students in an interview situation on campus.

CaPS offers the following programs and services:

Workshops

Throughout the academic year, workshops are held to assist students in their search for degree related employment. They are focused on Career Planning, Job Search, Resumé, and Interview Skills.

Job Search Counselling

Staff consultants are available to address career planning concerns. Staff members are available to provide consultation on any aspect of the job search process. CaPS has also developed workbooks on job search, resumé writing, and interview skills, and a series of career planning books targeted to specific focus groups.

Resource Centre

The Resource Centre is a unique library specially designed to assist in the job search. The Centre contains a vast array of reference materials including the following: Employer and Industry Information, Directories and Statistics, Faculty Specific Career Information, Job Search Information, Recruitment Information, International Employment Opportunities and much more.

Career Fairs and Career Forums

Students should not miss the opportunity to meet employers representing a wide variety of industries at the CaPS Career Fair held each year in January. Smaller discipline-specific career fairs are also held throughout the academic year.

Recruitment

Employers seeking qualified students for permanent, temporary, or summer employment contact CaPS throughout the year. Students from a wide variety of disciplines are sought, and students are encouraged to visit CaPS early and often to find out what positions are available.

CaPS Job Bank

The CaPS Job Bank is a computerized system wherein an up-to-date listing of specific permanent, summer, and temporary jobs can be accessed through MTS on-campus and by modem off-campus.

CaPS is located on the 4th Floor of the Student Union Building, phone 492-4291.

18.1.9 Effective Writing Resources

Effective Writing Resources provides a non-credit writing program which is open to those who want to improve their composition skills.

(1) **Courses:** A variety of 18-hour classes and 12-hour workshops at various levels are scheduled throughout the year. Among the courses offered are the following:

Level One:	Writing for University Writing Lab
Level Two:	Writing for Business
Level Three:	Marking Written Assignments Revising and Editing Your Thesis

Information concerning schedules and fees is available at the office of Effective Writing Resources.

(2) **Individual Assessments:** Effective Writing Resources provides individual assessments based on samples of previously written work or on results from

the "Alberta Universities Writing Competence Test." All assessments include a written evaluation and an interview. The fee for this service is $40.00.

a. **Writing Competence Test:** This diagnostic test is offered several times throughout the year; students enrolled in a course listed above have the opportunity to take the test at no extra charge. Those who pass the test may request a certificate for inclusion with information they send to prospective employers.

b. **Portfolio Assessments:** These evaluations are available at any time. Those who wish to use this service should bring three or four samples of their writing to the office of Effective Writing Resources and arrange for an interview. Students must ensure that any papers they bring have already been submitted for course credit.

Other Services: Students may also obtain a list of recommended books on composition and a checklist designed to help them revise and edit their work.

The office of Effective Writing Resources is located at 2B Students' Union Building (phone 492-2682).

8.2 Library Services

The University of Alberta Library contains approximately 3,400,000 volumes with the main collections housed in the Cameron, Rutherford, Law, and Education Buildings, the Walter C. Mackenzie Health Sciences Centre and Faculté Saint-Jean. Full information about the University Library is contained in §243 of this Calendar.

Students are subject to fines for overdue books according to the *Library Fines Policies*. This document is available at all circulation desks.

Note: §18.3 reserved.

8.4 Housing and Food Services

The Department of Housing and Food Services offers students a variety of residence communities where academic and personal growth is supported and encouraged. Lister Hall, Pembina Hall and Faculté Saint-Jean are furnished residences. Lister is available for an eight or four month duration, and Pembina and Faculté Saint-Jean are available for an eight month duration. Michener Park, HUB International, and Garneau are unfurnished residences, and are available on a month to month basis. Each residence elects a students' association and is directed by a Residence Life Coordinator, who works with students to develop an unique program of educational, social and cultural activities. Priority for available housing is given to full-time students at the University of Alberta. Applications are accepted throughout the year, and students are encouraged to request an information package as early as possible from:

Housing and Food Services, University of Alberta, 44 Lister Hall, 87 Avenue & 116 Street, Edmonton, Alberta, T6G 2H6; Phone (403) 492-4281

Faculté Saint-Jean

Faculté Saint-Jean is a small French speaking residence located on the Faculté Saint-Jean campus, six kilometres east of the main campus. This historic red brick building was constructed in 1908, and provides single or double fully furnished rooms. The residence is conveniently linked to the Faculté's academic buildings by an underground passage, and a playing field and tennis courts are part of the Faculté's grounds. The University runs a free shuttle bus service to the main campus.

Students supply their own food and do their own cooking in well-equipped communal kitchens, and the Cafe Saint-Jean is also available for snacks. Faculté Saint-Jean provides the camaraderie of a small community, and an excellent opportunity to participate in "la francophonie".

Faculté Saint-Jean la résidence, située sur le campus de la Faculté Saint-Jean, est environ 6 kilométres du campus principal de l'université. Etre résident de la Faculté Saint-Jean, c'est avoir la possibilité de vivre dans un milieu fancophone. Cet édifice, construit en 1908, loge 75 étudiants dans de chambres meublées, simples ou doubles. Les étudiants on accès a des cuisines modernes et bien equipées.

La résidence est reliée à l'édifice académique par un passage souterrain. Un service de minibus gratuit relie ce campus avec celui de l'université.

Vivre à la Faculté Saint-Jean vous permettra de mieux connaitre vos camarades de classe.

Lister Hall

The Lister Residence consists of three high-rise towers on the University campus. An excellent choice for the first-year student, the Lister community encourages social interaction and development, and provides a mandatory meal plan. The single or double study bedrooms are fully furnished, and are located around a central lounge area. Students choose their own type of floor environment, based on social activity, age, and living arrangement. Floor coordinators are the students' link to opportunities for involvement in the residence association's various recreational and social programs. Study rooms are available to students in each tower.

Lister provides many other amenities: steam room, weight room, tennis courts, typing rooms, computer room, color televisions in the lounges, piano and music practice rooms, and a suntanning facility. Dining facilities are located downstairs, or at various food service outlets across campus. "The Marina", a 24-hour convenience store, and "The Ship", a pub operated jointly by Housing and Food Services and the Lister Hall Students' Association, are also located in Lister Hall. Coin-operated washers, dryers and other services are found on each floor.

Pembina Hall

Pembina offers a relaxed and quiet study atmosphere for mature students (21 years of age and over). Pembina is one of the University's original residences, constructed in 1914, located in the heart of the campus and surrounded by well-kept lawns and trees. All rooms are fully furnished singles. The Central Academic Building, Students' Union Building, and HUB Mall are all close by. A meal plan is provided, with dining facilities located in Lister Hall, CAB, and many lunchrooms across campus. There are no cooking facilities in the study bedrooms. Each floor features a small kitchenette and communal lounge. Piano, computer, and sewing rooms are also available for students' use. Coin-operated laundry facilities are located in the residence.

Garneau

Garneau is one of Edmonton's oldest and most picturesque neighborhoods, located just east of campus next to the Law Centre. The Garneau Residences are made up of a variety of apartments and houses which are available on a month-to-month basis. A coin-operated central laundry facility is available to all students living in the Garneau houses, and laundry facilities are located in each apartment block.

The Garneau apartments are attractive, modern walk-ups, constructed as residences for the World University Games in 1983. These one, two and four-bedroom unfurnished units feature spacious balconies, and are equipped with a refrigerator, stove and security intercom system. Utilities are included with the rent, and bicycle storage is also available.

The 41 Garneau houses are unique in design, ranging in size from cozy one and two-bedroom units to spacious four and six-bedroom houses. Students may apply as a group or individually. All houses are equipped with a refrigerator and stove. Utilities are included in the rent.

HUB

HUB is one of the most unusual housing complexes in North America. As an international gathering place, HUB offers opportunities to meet students from as far away as Hong Kong, Lebanon, and Kenya. Some units overlook a self-contained mall with a wide variety of restaurants, shops, and services. Unfurnished bachelor, one, two, four-bedroom, and special end units (accessible to the disabled) are available on a month-to-month basis, and all units come with drapes, fridge and stove. Students may apply as a group or individually.

HUB International is conveniently joined by covered skywalks to the Rutherford Library, Humanities Centre, and the Fine Arts, Law, and Business buildings.

Michener Park

Michener Park is a quiet family housing community six kilometers south of the main campus, designed for couples and families. For families, two-bedroom apartments with balconies on the upper floors and patios at ground level are available, or two and three-bedroom row houses with semi-private yards opening into landscaped courtyards. Couples without children may choose between Vanier House, a 14 storey high-rise featuring unique bi-level one-bedroom apartments, and Galbraith House, a 21 storey tower of two-bedroom apartments. All units are available on a monthly basis.

Furnishings include refrigerator, stove, and drapes. Laundry is also available at a central location, and utilities are included in the rent. Michener Park provides playgrounds, day-care, a babysitting co-op, and a computer room with an on-line connection to the mainframe University of Alberta academic computer system. The Park is close to shopping, the University of Alberta Tennis Centre, and excellent bus routes to the University and downtown.

Food Services

Students in Lister Hall and Pembina Hall must purchase a dining card, which operates on a declining balance. The card may be used in Lister Hall, CAB, or any of the 13 lunchrooms conveniently located in various academic buildings across campus. Required financial commitments are listed on the Rate and Information sheet, which is enclosed with all housing applications. A campus dining card, which will be available to students living in other residences and off campus, will also be offered.

18.4.1 Student Off-Campus Housing Registry

The Housing Registry, operated by the Students' Union, provides a year-round service for students looking for off-campus accommodation. It provides students with a personalized, computer-generated listing of houses, suites in house, apartments, rooms and room and board situations, as well as general housing information. Information may be mailed on request. The office is located on the Main Floor of the Students' Union Building. (Telephone 492-4212.)

18.5 Bookstore

The University maintains a large and modern Bookstore in the Students' Union Building, where prescribed textbooks and supplies of all kinds may be purchased. The Bookstore also stocks a wide range of books and other items of special interest to students and Faculty.

Refund Policy

General:

Full refunds will be given provided the merchandise being returned is in perfect saleable condition and the customer provides acceptable proof of purchase (cash receipt or cancelled cheque) and the specific conditions for refund of the type of merchandise is met.

The Bookstore reserves the right to deny a refund at any time.

Textbooks:

Textbooks may be returned only during the specified times as published by the Bookstore.

A student may return textbooks that were required for a specific course if the student has withdrawn from the course and provides proof of the withdrawal and requests the refund within seven days of withdrawing from the course.

General Books:

Books that are not specified as required textbooks may be returned for refund within seven days of the date of purchase.

Special Orders:

Refunds are not allowed on special orders.

Sale Items:

Refunds are not allowed on sale items.

Non-Book Merchandise:

Merchandise may be returned for refund within seven days of date of purchase.

Microcomputer Department:

Normally there are no refunds on merchandise from the microcomputer department, however, the manager may, under extenuating circumstances, approve a refund.

Used Books

The Bookstore also buys back certain textbooks in December and in April, provided they are in good condition. The Bookstore reserves the right to limit these quantities.

18.6 Printing Services

Printing Services operates a professional printing and duplicating service for the University and the University community. Students may access Printing Services' many services including desktop publishing, disk conversion, text scanning, duplicating, printing, and binding.

Students wishing to use ReproCards for photocopying may purchase $5 and $10 cards from the vending machines conveniently located throughout the Library. $5, $10, $20, and $50 cards may also be purchased through Printing Services at the Main Plant or at one of the Satellite Copy Centres.

The Main Plant is located at 108 Printing Services Building. Satelite offices are located in Tory, Room TB29, Education South, Room B105, Civil Engineering, Room 114, and Clinical Sciences, Room 1-162. For information on printing, duplicating, and thesis binding call 492-4246.

18.7 University Computing Systems

The Department of University Computing Systems (UCS) provides computing facilities for both academic and administrative usage. The Michigan Terminal System (MTS)

running on the Amdahl 580/5870 mainframe and the Virtual Machine (VM) system running on the IBM 4381-13 provide computing for Faculty, researchers, and students. With two FPS-164 attached array processors, the Amdahl provides cost-effective power for large-scale numerical computation tasks. The Multi-Tasking Virtual Storage (MVS) system on an IBM 3081-K provides computing for administrative functions.

There are several microcomputer labs located throughout the campus which serve various needs in terms of operating systems (DOS, UNIX, etc.) and software. Some of these labs, plus several terminal labs, are connected to the mainframe systems. When not scheduled for academic use, all labs are available for general access. Schedules are posted on the lab doors. Information on lab locations and hardware/software configurations in each lab is available from UCS.

Additional services include consulting, non-credit training, development and support of administrative applications, contract programming, optical scoring, magnetic tape storage, and remote terminal support. The Data Library, Room 156C Tory Building, contains machine readable research data to assist researchers in locating quantitative data.

18.8 Day Care Centres

The Students' Union and Community Day Care Centre is located in HUB (8917-112 Street). The Centre operates from 7:30 am to 5:30 pm, Monday to Friday with a mid-day meal and two snacks provided. The staff are fully qualified to devise and implement programs which meet the social, emotional, and intellectual needs of young children. An extended French kindergarten program is also in operation where the acquisition of a second language is a positive, comfortable, and fun experience for children five years of age and older. The Centre is government subsidized and thus fees are based on family income. For more information, call 492-2245.

In addition, Michener Park Education Society runs a non-profit day care and day home agency located in the University's student housing complex (Michener Park, 122 Street and 48 Avenue). The day care provides care for children ages three months to three years. The staff are fully qualified to work with this age group (having a two-year Early Childhood Development Diploma or equivalent). The centre is government subsidized and fees are based on family income level. Interested students can contact the Centre at 434-8407.

A third day care facility, the University and Community Day Care Centre, is located in Windsor Park School, 8720-118 Street. Although priority for admission is to university staff, limited positions may be available for children of students. Further information may be obtained by contacting the Centre at 433-0070.

18.9 Alumni Association

The Alumni Association, formed in 1915, counts among its members over 120,000 graduates world-wide and in all walks of life. Upon graduation, without fee, every student automatically becomes a lifetime member of the Association.

Members in good standing are entitled to benefits including:

New Trail

Published quarterly, New Trail Magazine travels to the four corners of the world at a voluntary rate of $12.00 per year. New Trail contains feature articles, Association news, and campus and class notes.

Recreational Privileges

Alumni user cards for alumni and their families are available at a special rate for access to all campus recreational facilities.

Reduced Insurance Rates

In cooperation with major insurance companies, the Association offers alumni life, auto, and home insurance at reduced rates.

Affinity Card

A no-fee Mastercard credit card, administered by one of the major chartered banks, is available to alumni and is a unique method of contributing to the University.

Travel Programs

A combination of education and entertainment, these programs are arranged by the Association to let you expand your horizons - literally!

Employment Seminars

At least four times each year, the Association sponsors workshops for graduates who wish to prepare effective résumés and learn job search and job interview techniques in order to make themselves more saleable in the competitive job market.

Library Privileges

Graduates are welcome to use library materials in place. A special borrower's card is available for alumni at $50.00 annually.

University Affairs

Your perspective is valuable. As a member, you can involve yourself in University government by being named to various University bodies including the Senate and the Board of Governors.

Annual Fund

Your contribution is needed for worthwhile projects. Fund donations are tax-deductible and, in many cases, matched by the Provincial Government.

Alumni Branches

These groups of alumni have their own constitution and executive committees and oeprate under the auspices of the Association. Branch representatives sit on the Alumni Council and organize social and educational functions for graduates in their area. Branches are located in numerous Canadian cities and in several foreign countries.

Faculty Associations

Constituent Alumni Associations are currently organized for the following Faculties, Departments, and special interest groups: Medicine, Dentistry, Pharmacy, Business, Nursing, Library & Information Studies, Education, Health Services Administration, Forestry, Drama, and Native Studies graduates. Administered by the Alumni Association with the cooperation of Faculty/Department staff and graduates, these associations serve to promote the welfare of their specific Faculty/Department or area of special interest.

Class Representatives

Students in their senior year are regularly invited to volunteer for the position of class representative for their department/Faculty. Class representatives assist classmates in maintaining contact with one another and the university by organizing reunions and preparing class newsletters. Representatives are the liaison between the class and the Association.

Reunion Weekend

Organized annually by the Association. You're invited. And if you're about to celebrate your 10th, 15th, 20th or more anniversary of graduation, we'd be happy to help organize a class reunion. Organizational booklets on the "how to" of planning a reunion are available to class representatives from the Alumni Office.

Newsletter Service

The Association absorbs all costs of mailing one newsletter per year for each class. Class representatives simply send a typed copy to the Alumni Office and we do the rest. If you are organizing a reunion, we'll send two newsletters that year.

Alumni Scholarships and Awards

The Association sponsors scholarships for future alumni (undergraduate students) and presents special recognition awards to outstanding alumni.

Official Alumni Mementos

Periodically, the Association offers special edition memorabilia to alumni. Items in the past have included official U of A watches, a chime clock and a framed sketch of a university building.

Host Family

In conjunction with the U of A's International Centre, Alumni Families are invited to share friendships and experiences with foreign students attending university.

18.10 Athletics

18.10.1 Campus Recreation Program

Campus Recreation is a section of the Department of Athletics that has the major responsibility of facilitating healthy lifestyles for the University Community through a wide variety of recreational activity programs.

All full-time and part-time students, Faculty members, non-academic staff members, and alumni and their families who possess either an I.D. card or a Van Vliet Physical Education and Recreation Centre 'user' card are eligible to participate in most Campus Recreation Programs.

The major goals of this program are: to offer a wide range of activities to as high a proportion as possible of the university community; to provide opportunities for physical exercise in a well organized fashion in an appropriate setting; to provide a friendly enjoyable social atmosphere during and following activity participation.

In an effort to attain its goals Campus Recreation is divided into a number of program areas, each with a different focus:

The Women's, Men's, and a Co-Rec Intramural Programs offer a wide variety of sport-orientated activities. More than (60) different activities are offered to the campus community annually. Stu... Faculty and staff and their families all particip... these activities.

The Non-credit Instruction (NCI) Program ... instruction in dance/fitness, sports and outdoor pu... to all members of the university community. Ov... instructional courses are offered per term.

The Sports Clubs Program is essentially a so... of Campus Recreation made up of over 20 diff... clubs which include such activities as the martia... rowing, badminton, and cross-country skiing. ... students, Faculty and staff are members of the ...

The Campus Fitness and Lifestyle (CFLP) P...gram has as its major focus the providing of fi... classes and lifestyle-improving course to stud... Faculty and staff.

The Special Events Programs are those acti... offered at various times throughout the year on a... hoc basis. Examples of these are: Campus Rec... tion Skate-Giveaway, Old-Time Skating Party, ... Family Fun Sunday.

Casual Recreation opportunities for the 'drop-in'... ticipant are provided regularly in the many facilitie... the Van Vliet Centre.

Information on any of these Campus Recre... Programs and how to access the facilities may be... tained from the Campus Recreation Office (Room W... Van Vliet Centre) during office hours.

18.10.2 Interuniversity Athletic Program

The interuniversity athletic program at the Unive... of Alberta is designed to provide diversified competi... opportunities, skilled and qualified coaching and outsta... ing facilities for students with superior athletic talents. ... designed to further develop and utilize these talents full... high calibre organized competition with students of sim... ability across Canada. The University of Alberta is... charter member of the Canada West University Athl... Association. The Golden Bears and Pandas compete... the CWUAA with men's and women's teams from ... Universities of British Columbia, Victoria, Calgary, Le... bridge and Saskatchewan. Conference champions adva... to compete in national and international competiti... organized by the Canadian Interuniversity Athletic Uni... In the past year national championships were held... football, volleyball, basketball, hockey, swimming, socc... and wrestling for the men, and volleyball, swimming, fi... hockey, basketball, and soccer for the women. Thus ... opportunity to travel and meet athletes from across C... ada and around the world is made available to Golc... Bear and Panda participants. Team members wear ... traditional green and gold colors with pride and enthu... asm.

Spectator participation has proven to be a vital part... the Alberta campus scene as thousands of students, st... and alumni attended Golden Bear and Panda gam... These activities serve as a common rallying point and... diversion from day to day academic endeavors.

Student athletes receive individual recognition ... their achievements at the yearly athletic awards night. Th... is the culminating highlight of the athletic year at t... University of Alberta. The most highly prized trophi... awarded are the Bakewell and Wilson trophies, present... to the top female and male athletes at the Universi... Award recipients are chosen by a committee made up ... Faculty representatives and members of the Univers... Athletic Board.

18.11 Transportation and Parking

Traffic and Parking Regulations which apply to th... use, operation and parking of all motor vehicles within th... boundaries of the campus are established by the Board ... Governors. It is the responsibility of all students to mak... themselves aware of the regulations, copies of which ar... available at the Parking Services office located in Roo... 203, Education Car Park.

Day time parking space for students is in extrem... short supply during the winter session. **Students shoul... not expect** to be guaranteed a space for the wint... session. Available space will be allotted in accordanc... with Schedule 'B' of the University Traffic and Parkin... Regulations.

All parking on campus is restricted to valid perm... holders only, from 0700 to 2200 hours seven days a week... Violations will result in parking tickets being issued and/o...

away action being taken at the vehicle operator's ense. The University Traffic and Parking Regulations uld be consulted for further information.

dent Parking Application

A limited amount of space may be purchased on a come first served basis in designated student areas inning July 15, 1991, by confirmed out of metro nonton residents only. (Metro Edmonton includes St. ert and Sherwood Park). These permits must be pur- sed by these qualified applicants for the entire Winter sion and payment must be made in full, in advance. dents must apply for parking space no later than gust 30, 1991. Applications received after this cannot considered.

sidence Student Parking

ter Hall Complex

Available space is allocated with the cooperation of Lister Hall Students Association (LHSA). Students iding in the Lister Hall Complex must apply for parking ace through the LHSA. There is no alternative parking Lister Hall.

IB Complex

Available space is allocated with the cooperation of HUB Tenants Association. Students residing in the IB Complex must apply for parking through the associa- n. There is no alternative parking for HUB Complex sidence students.

rneau Housing Community

Students residing in the Garneau Housing Community ust provide confirmation of their tenancy, obtained from ousing and Food Services. Parking space in the Gar- au area will be sold only to students presenting such nfirmation, and is for tenant use only.

asual Parking

Subject to space availability. Casual parking is availa- e for non-permit holders in various, attended surface lots d parkades on campus. Space is limited and not always ailable at all locations during the Winter Session. Rates e posted at the entrance of each location.

etered Parking

A limited amount of metered parking is available. All eters are in operation from 0700 to 2200 hours seven ays a week, statutory holidays excluded. Rates and time eriod of meter operations are as indicated on each meter.

otorcycle Parking

Only those areas specifically designated for parking otorcycles and motor scooters are to be used. These ehicles may not be parked elsewhere. A valid permit ust be purchased and displayed on each vehicle.

icycle Parking

Bicycle parking is strategically located across the ampus.

vening Parking

Parking is readily available on campus during evening ours, which run from 1630 to 2200 hours, Monday hrough Friday. A parking permit is required and can be btained from Parking Services. This permit is valid at all ampus parking locations except Zones "E" and "X" during he above hours. For occasional visitors, casual parking is vailable in any of eleven different locations.

ublic Transportation

Public transportation passes may be obtained by students at reduced rates. These passes are available at he Students' Union run information booths in SUB and CAB, as well as in Varsity Drugs in HUB. These passes onstitute a 10% savings for potsecondary students and can only be purchased at a postsecondary institution.

Further Information

Additional information may be obtained from Parking Services (telephone 492-3811) Room 203, Education Car Park. (114th Street and 87th Avenue).

19 Code of Student Behavior: Conduct and Discipline

19.1 Introduction and Definitions

The University is defined by tradition as a community of people dedicated to the pursuit of truth and advancement of knowledge, and as a place where there is freedom to teach, freedom to engage in research, freedom to create, freedom to learn, freedom to study, freedom to speak, freedom to associate, freedom to write and to publish, and a concomitant obligation to respect these freedoms when they are exercised by others.

The offences listed below describe, in general terms, behaviors which if left unchecked would, to an unacceptable degree, infringe upon these freedoms and thus threaten the proper functioning of the University.

Nothing in this Code shall prevent the University from referring an individual matter to the appropriate law enforcement agency should such action be considered necessary.

Definitions

In these procedures, the following words have the following meanings:

(1) **Student:** A person who is registered as a student at the University whether or not for credit.

(2) **Student Affairs:** Any activities or conduct which relate to, or which may represent or be seen as representing, the University of Alberta, whether such activities or conduct occur on campus or off campus when the activities or conduct relate to student status.

(3) **Complaint:** A written and signed statement as a result of which proceedings under these procedures may be instituted.

(4) **Appellant:** Any person who appeals under these procedures.

(5) **Discipline Officer:** The Administrative Officer for Student Discipline Procedures, who is the person charged by the President with the implementation of these procedures.

(6) **Dean of Student Services:** Dean of Student Services or designate.

(7) **Member of the University Community:** Any registered student, academic staff or non-academic staff member.

(8) **Dean:** Unless indicated otherwise, "Dean" shall be interpreted as the Dean (or designate) of the Faculty which offers the course in which there is an allegation of academic wrongdoing on the part of a student.

(9) **Director of Campus Security:** Director of Campus Security or designate.

(10) **Fine:** A fine shall mean an order for payment of a sum certain by the student to the University of Alberta. Subject to the agreement between the student and the University, however, and subject to availability of appropriate work, the fine may be paid in whole or in part through the provision of services. Calculation of the value of the work shall be in accordance with rates normally paid for the position to be occupied.

(11) **Suspension:** Suspension requires a student to withdraw completely from the University for a specified period of time, to a maximum of three years. Upon expiry of the period of suspension, the student will be permitted to re-enrol in the program from which the student was suspended, provided the student has not been required to withdraw in accord with the Faculty's published academic standing regulations. Any course work completed at any institution during the period of suspension will not be accepted as credit towards an individual's degree, or for admission to a degree program, or other certification at the University of Alberta. See also §19.9.

(12) **Expulsion:** Expulsion requires a student to withdraw completely from the University for an indefinite period of time. The student shall not be permitted to return without the approval in writing of the Vice-President (Academic) in consultation with the Faculty from which the student was expelled. Such approval shall not be given before the expiry of three years. Any course work completed at any institution during the period of expulsion will not be accepted as credit towards an individual's degree, or for admission to a degree program, or other certification at the University of Alberta. See also §19.9.

(13) **Instructor:** The person charged with the responsibility for assigning the grade in a course, or the person formally charged by the Department or the Faculty of Graduate Studies and Research with the responsibility for advising the graduate student or with the responsibility for supervising the thesis or project.

(14) **Apprehended Danger:** The perception that a student's behavior or conduct, while engaged in a recognized University or student activity, constitutes a danger, or risk of danger, to that student or to other persons or property.

(15) **Mandatory Exclusion:** Mandatory Exclusion prohibits or restricts the student's presence on campus and participation in any University class or student activity for an indefinite period of time. The Dean may impose conditions for reinstatement which must be met before a request for reinstatement will be considered.

19.2 Amendment of the Code

(1) The Code may be amended by General Faculties Council in exercise of the authority vested in it by §42 of the Universities Act.

(2) The Code must be published in each issue of the University Calendar and on at least one occasion annually in the Gateway.

(3) Amendments to the Code shall come into force thirty (30) days after receiving the approval of General Faculties Council. All amendments must be published in the *Gateway*, at least fourteen (14) days prior to the GFC meeting.

(4) The Administrative Officer for Student Discipline Procedures shall maintain the Official Copy of the Code and all amendments thereto.

19.3 Non-Academic Offences

Any of the following activities or conduct or attempts thereat or participation therein insofar as they relate to student affairs shall constitute an offence and be punishable.

(1) **Disruptions:**

a. No student shall, by action, words, written material or by any means whatsoever, knowingly obstruct University activities. University activities include but are not limited to, teaching, research, studying, administration, meetings, and public service.

b. Nothing in this Code shall be construed to prohibit peaceful assemblies and demonstrations, lawful picketing, or to inhibit free speech.

(2) **Unauthorized Entry and/or Presence:** No student shall, contrary to express instructions or with intent to damage, destroy, convert or misappropriate University property or without proper authority, enter or remain in any University building, facility, room, or office. Facilities include but are not limited to the following: parking lots, athletic fields, campus buildings, and campus areas.

(3) **Misappropriation, Damage, and Destruction of Property:**

a. No student shall knowingly misappropriate, convert, destroy or otherwise damage University property, nor shall any student knowingly misappropriate or convert, destroy or otherwise damage any property not the student's own on University property.

b. No student, in any manner whatsoever, shall knowingly deface the inside or outside of any building or property of the University.

(4) **Physical Abuses, Harassment, and Dangerous Activity:** No student shall:

a. physically abuse another person, threaten any other person with physical abuse or damage to such person's property or knowingly, and without just cause, cause any other person to fear physical abuse or fear damage to such person's property; or

b. knowingly create a condition which unnecessarily endangers or threatens the health, safety or well-being of other persons or threatens the damage or destruction of property.

(5) **Sexual Harassment:** No student shall sexually harass another person. Sexual harassment shall be defined as unsolicited, unwanted sexual advances, or requests for sexual favors, unsolicited, unwanted verbal or physical conduct of a sexual nature, and unsolicited, unwanted written or visual material of a sexual nature.

(6) **Possession of Misappropriated Property:** No student shall possess University property or property of any member of the University community without the consent or authority of the University or member of the University community as the case may be.

(7) **Unauthorized Use of Facilities, Equipment, Materials, or Services:** No student shall knowingly:

a. Use any facility, equipment, material, or service contrary to express instruction or without proper authority;

b. Obtain any University equipment, material, or service by fraudulent means or by providing false information.

(8) **Misuse of University Supplies or Documents:** No student shall, without authority, knowingly make, alter, use, receive, or possess University supplies or documents. University supplies and documents include but are not limited to equipment, keys, records, and permits.

(9) **Misuse of Library or Computer Resources:** No student shall knowingly:

a. Remove books or other library material from a University library without proper authorization, mutilate or deface library books or material, purposely misplace them or in any other way purposely deprive other members of the University of the opportunity to have access to library resources;

b. Use any University computer or computer related facility without proper authorization.

(10) **Picketing and Demonstration:** No student shall, on University property, individually or with a group and in connection with a demonstration including a rally or picketing:

a. knowingly use words which threaten violence or physical abuse to any group or individual whether or not the group or individual thus threatened knows of such threatening words; or

b. knowingly use words in a situation of clear and imminent danger which incite others to behavior which violates any article of this Section.

(11) **Identification:** No student shall refuse to provide identification upon request by a University Official or employee acting in the course of that person's duties, where the University Official or employee has reason to believe an individual is committing, has committed or is about to commit an offence.

(12) **Smoking:** Smoking is prohibited during classes, laboratories and examinations, or in any area where smoking is banned.

(13) No student shall knowingly aid or assist another student in the commission of any non-academic offence listed above.

19.4 Academic Offences

The integrity of University life and of the degrees the University confers is dependent upon the honesty and soundness of the teacher-student learning relationship and, as well, that of the evaluation process. Conduct by any member of the University community that adversely affects this relationship or process must, therefore, be considered a serious offence.

(1) **Plagiarism:** No student shall submit the words, ideas, images or data of another person as the student's own in any academic writing, essay, thesis, research, project or assignment in a course or program of study.

(2) **Cheating:** No student shall:

a. in the course of an examination obtain or attempt to obtain information from another student or other unauthorized source or give or attempt to give information to another student, or knowingly possess, use or attempt to use any unauthorized material;

b. represent or attempt to represent oneself as another or have or attempt to have oneself represented by another in the taking of an examination, preparation of a paper or other similar activity;

c. submit in any course or program of study, without the written approval of the course instructor, all or a substantial portion of any academic writing, essay, thesis, research report, project or assignment for which credit has previously been obtained or which has been or is being submitted by the student in another course or program of study in the University or elsewhere.

d. submit in any course or program of study any academic writing, essay, thesis, research report, project or assignment containing a statement of fact known by the student to be false or a reference to a source which reference or source has been fabricated.

(3) **Confidential Materials:** It shall be an offence to knowingly procure, distribute, or receive any confidential academic material such as pending examinations or laboratory results from any source without prior and express consent of the instructor.

(4) **Misrepresentation of Facts:** It shall be an offence to knowingly misrepresent material facts to another for the purpose of obtaining academic advantage or credit.

(5) **Specific Faculty Offences:** Faculties and administrative units will be required to define and publicize any academic or non-academic offences unique to their Faculty or area, together with attendant penalties, both of which must be filed with and approved by the Campus Law Review Committee.

Such offences and penalties will be considered by the Campus Law Review Committee and if approved by the Campus Law Review Committee and General Faculties Council will be added to the list of offences and penalties. This list will be incorporated in an official appendix to the Code of Student Behavior and will have the same force and effect as if part of the Code.

Where there is a difference of view as to the nature of the offence, the determination as to whether or not an offence under this section is to be treated as an academic or non-academic offence shall rest with the Discipline Officer who shall consult with the Faculty and/or the Director of Campus Security.

a. **Offences Specific to the Faculty of Dentistry:** In addition to the academic offences listed in §19.4 the following offences will be deemed **gross professional misconduct** (§62.4 University Calendar) and will be appropriately penalized.

1) all attempts at deliberately falsifying patient records including forging instructor signatures,
2) falsifying financial records related to patient treatment procedures,
3) misrepresenting patient treatment to third party insurance carriers,
4) careless or negligent behavior resulting in unnecessary physical and/or mental harm to patients.

The penalties for gross professional misconduct and the procedures followed will be those defined for academic offences in the Code of Student Behavior (See §19.5 and §19.8 for penalties and procedures for academic offences).

b. **Offences Specific to the Faculty of Rehabilitation Medicine:**

1) All students enrolled in the Faculty of Rehabilitation Medicine are bound by, and shall comply with, the Professional Code of Ethics governing the profession and practice of their discipline.
2) "Professional Code of Ethics" means all provincial and federal Codes of Ethics governing the profession or practice of occupational therapy, physical therapy, or speech pathology and audiology, as the case may be.
3) A student enrolled in the Faculty of Rehabilitation Medicine who contravenes the Professional Code of Ethics governing the profession or practice of their discipline commits an offence under the Code of Student Behavior when, at the time of the alleged offence, the student was involved in field work, apprenticeship, clinical training, or other similar work related to a course of study in the Faculty of Rehabilitation Medicine.
4) Where proceedings have been instituted against a student under the Code and separate proceedings are commenced against the same student relating to the same cause or matter under the Professional Code of Ethics, the Dean may stay proceedings under the Code pending the outcome of the proceedings brought pursuant to the Professional Code of Ethics.
5) It shall be the responsibility of each Rehabilitation Medicine student to obtain, and be familiar with, the Professional Code of Ethics relevant to their discipline, and all amendments thereto as may be made from time to time.

(6) No student shall knowingly aid or assist another student in the commission of any academic offence listed above.

19.5 Penalties

(1) In the case of a breach of the Code of Student Behavior the following penalties may be imposed at the discretion of the Dean of Student Services or the University Appeal Board:

a. **For non-academic offences**

1) Expulsion,
2) Suspension,
3) A fine of not more than $500.00,
4) Restitution,
5) Reprimand,
6) Exclusion from specified areas of the University.

b. **For academic offences**

1) Expulsion,
2) Suspension,
3) An academic penalty consistent with University, Faculty, or Departmental rules,
4) Academic probation,
5) Reprimand.

(2) Grade reduction and grades of 1F given for disciplinary decisions shall be calculated into the student's GPA and may result in the student being required to withdraw from the student's program. The University recognizes the differential effects such penalties may have on students in different Faculties. Appeals from disciplinary decisions which also affect a student's academic standing lie with the University Appeal Board. See §19.8.

(3) Where the penalty of suspension or expulsion has been imposed, and unless the Dean of Student Services or the University Appeal Board otherwise stipulate, the effective date for the commencement of the suspension or expulsion shall normally be the date upon which the Discipline Officer informs the student that the student has been suspended or expelled. Such notification may be hand-delivered or sent by mail. When sent by outside mail, it shall be sent by double-registered mail to the address which has been provided to the University or to the Discipline Officer. Notice may be deemed to have been effected one week following mailing to the last known address.

(4) In determining both the length and/or the effective date of the penalty, the Dean of Student Services or the University Appeal Board shall take into account the impact on the student's academic program and record.

(5) A student shall receive credit for any course passed by the effective date of the suspension or expulsion. (See also §19.7(3)c.8) and §19.8(3)c.8)).

(6) Withdrawals resulting from suspension or expulsion decisions will result in grades of "W" which will remain part of the student's permanent academic record.

19.6 Student Discipline Procedures

The following are the procedures to be followed in the cases of allegations of academic and non-academic offences. Formal procedures described below are to be utilized when less formal conciliatory measures prove ineffective.

19.7 Procedures for Non-Academic Offences

(1) **Initiation and Conduct of Proceedings:**

a. Any person who has reason to believe that a student is guilty of a non-academic offence may initiate proceedings against the student.

b. Where a person has reason to believe that a student has committed a non-academic offence that person may, by a signed statement (the complaint) delivered to the Director of Campus Security, request an investigation of the complaint. In the course of this investigation, the Director may consult the Discipline Officer.

c. The complaint shall be a detailed written description of the incident. This shall include the time and place, person or persons involved, and any relevant information concerning the incident.

d. The Director of Campus Security may decline to proceed with a complaint under the following circumstances:

1) Where the complaint is primarily concerned with regulations of another official University organization, and the Director of Campus Security believes that the complaint should be dealt with in accordance with procedures established by that organization.

2) Where the Director of Campus Security believes that no University rule has been broken.
3) Where the Director of Campus Security believes the complaint to be scandalous, frivolous or vexatious.
4) Where an unreasonable time has elapsed since the incident.
5) Where the offence should be referred to the police or appropriate public authorities.

Where the Director of Campus Security has declined to lodge a complaint, the Complainant must be so notified and the reasons given. The person complaining may then appeal the Director of Campus Security's decision to the Discipline Officer.

Should the Director of Campus Security identify a possible conflict of interest involving the Dean of Student Services (eg. the complainant is the Dean of Student Services or an employee reporting directly to the Dean of Student Services), the Director of Campus Security is authorized to forward a report and recommendation to the Vice-President (Academic) or delegate who will act for the Dean of Student Services, in accordance with the following procedures.

Having decided to proceed with the complaint, the Director of Campus Security shall conduct an investigation and, if disciplinary measures are believed to be warranted, shall forward to the Dean of Student Services the results of the investigation along with a recommendation as to an appropriate penalty.

j. The Dean of Student Services shall meet with the alleged offender, review the matter and determine if the facts as disclosed by the complainant are in dispute.

In the event that the alleged offender refuses to meet with the Dean of Student Services, a decision and a penalty shall be arrived at taking into account whatever evidence is available.

1) Where the facts are determined not to be in dispute, the Dean of Student Services may impose one or more of the penalties listed in §19.5(1)a.
2) Where the facts are in dispute, the Dean of Student Services will review the matter further by talking with all parties involved, and may either dismiss the charges or impose one or more of the penalties listed in §19.5(1)a.

In the event that the alleged offender refuses to meet with the Dean of Student Services, a decision and a penalty shall be arrived at taking into account whatever evidence is available.

3) When considering what would be an appropriate penalty, the Dean of Student Services may take into account the disciplinary record, if any, of the student against whom the complaint is made.

h. Having reached a decision, the Dean of Student Services shall give a written report to the Discipline Officer. The report shall state what penalty, if any, is to be imposed upon the student, and the major circumstances taken into account in arriving at the decision.

i. Upon receipt of the above report, the Discipline Officer shall send a copy to the student, the Complainant, and the Director of Campus Security. If a penalty has been imposed, the Officer shall advise the student of the right to appeal and shall forward a copy of the University Appeal Board Procedures.

Initiation and Conduct of Appeals

a. A student may appeal the decision of the Dean of Student Services by submitting a notice of appeal in writing to the Discipline Officer. Such notice must be received by the Officer no later than fifteen (15) calendar days after notification of the written decision of the Dean of Student Services. At the discretion of the Discipline Officer, an appeal may be accepted after the expiry of the fifteen days.

The appeal shall be based upon denial of the offence, and/or shall relate to the severity of the penalty.

b. The notice of appeal must be in writing, signed by the appellant, and must state the grounds of appeal. The appellant must immediately notify the Discipline Officer upon retaining legal counsel or an adviser.

c. The Discipline Officer shall notify both parties of the date, time and place of the appeal hearing, which shall be at least fourteen (14) calendar days but no more than forty-five (45) calendar days following the receipt of notice of appeal. Each party shall receive a copy of the submission made to the Appeal Board by the other party. Each party will receive the names of the Board members and notification that either party may challenge membership to the Discipline Officer (§19.7(3)b.(10)). The Discipline Officer shall also provide the student with a list of on-campus sources of assistance.

d. The Discipline Officer shall appoint the Appeal Board and provide its members with:

1) the date, time and place of the Appeal Hearing,
2) the notice of appeal and any submission from the respondent,
3) the written report of the Dean of Student Services.

e. Notices may be hand-delivered or sent by mail. When sent by outside mail, they shall be sent by double-registered mail to the address which has been provided to the University or to the Discipline Officer. Notice may be deemed to have been effected one week following mailing to the last known address.

f. Upon receiving notice of appeal, the Discipline Officer, in cases of expulsion or suspension, shall direct the Registrar to withhold degrees, certification of marks and/or transcripts of records pending the outcome of the appeal. Any other penalties imposed by the Dean of Student Services shall be suspended upon receipt by the Officer of notice of appeal.

(3) **Establishment of a University Appeal Board**

a. **General:**

Meetings of the University Appeal Board shall be scheduled as required to hear and determine appeals against disciplinary decisions of the Dean of Student Services. The University Appeal Board, as designate of General Faculties Council and the Board of Governors, shall have authority to confirm, vary or quash penalties imposed under §19.7(1).

b. **Composition, Terms of Reference and Chair**

1) The University Appeal Board shall consist of the following regular members elected by General Faculties Council: two academic staff members from Category A1.1, A1.5 or their counterparts in A1.6*, (one of whom shall hold the Chair upon election by the regular members of the Board), two undergraduate students and one graduate student.
2) All regular members shall come from different Faculties.
3) Where the appeal involves a graduate student, the Discipline Officer shall, by rotation, replace one undergraduate student with one alternate graduate student.
4) General Faculties Council shall also elect the following alternate members: three academic staff members (from Category A1.1, A1.5 or their counterparts in A1.6*), four undergraduate students and four graduate students. To the extent it is possible, all alternate members should come from different Faculties and from Faculties not already represented by the regular members.

*See §5 of the GFC Policy Manual for definitions of these categories of staff.

5) For the purposes of selection and service on the University Appeal Board, graduate students are considered to be from the Faculty where they receive supervision.
6) Terms of office for all academic staff members shall be up to three years as General Faculties Council shall determine. Academic staff members are eligible for re-election.
7) All student members shall be elected for up to two-year terms and are eligible for re-election.
8) In order to ensure that no Board member will be from a Faculty, if any, which is party to the dispute, the Discipline Officer may replace, by rotation, any regular member with an alternate member from the same constituent group (i.e., staff, undergraduate student or graduate student). For this purpose, graduate students are considered to be from the Faculty where they receive supervision.
9) All Board members should declare to the Discipline Officer their interests, if any, in a particular case in order to ensure objectivity and a fair hearing.
10) Appellant and respondent will be provided with the names of all Board members, regular and alternate, and will have five calendar days after receipt of the names to lodge a written challenge with the Discipline Officer requesting that a Board member not serve on an appeal. Challenges may be made only on the grounds that a Board member may have a bias which would prevent a fair hearing. Challenges must include written reasons to support the request. If the Discipline Officer concurs with the challenge the Officer will replace the Board member with an alternate member who will be selected by rotation from the same constituent group (i.e., staff, undergraduate student or graduate student). The decision of the Discipline Officer is final and binding.
11) Normally, the Chair of the Appeal Board will be appointed to chair each hearing. In instances where the Chair cannot serve, the Discipline Officer shall appoint another academic staff member or alternate academic staff member of the Board to chair the Appeal Board hearing.
12) The quorum of the Appeal Board shall consist of one academic staff member and two student members.

c. **Appeal Board Procedures for Non-Academic Offences**

1) The appeal shall consist of a *de novo* hearing of the case.
2) i. The Appeal Board may accept any evidence that it, in its sole discretion, considers proper, whether admissible in a court of law or not; and
ii. The Appeal Board is not bound by the Alberta Evidence Act or the law of evidence applicable to judicial proceedings.
3) The Appeal Board shall conduct hearings in a manner which, in its sole discretion, it considers proper.
4) A defect in procedures shall not warrant the quashing of the decision unless the defect complained of can reasonably be said to have deprived either party of a fair hearing.
5) The Board shall hear the argument of both sides to the appeal and then, by majority vote, shall uphold or quash the decision appealed from. Where a decision against the student is upheld, the Board may confirm, vary or suspend the penalty imposed.
The Appeal Board is authorized to receive procedural advice from the Discipline Officer.
6) The Chair of the Board through the Discipline Officer shall, where practical, immediately communicate the decision of the Board to the student.
7) The Chair shall submit the written decision of the Board to the Discipline Officer within seven (7) calendar days of the Board's decision being reached.

The Discipline Officer shall then send to both parties and to the Dean of Student Services a copy of the Board's decision. The procedure for service of this report shall be that given in §19.7(2)e.

8) Any penalty confirmed shall be deemed to have taken effect on the date determined in the original decision. Any new penalty shall take effect immediately upon oral notification (§19.7(3)c.6)) or, failing that upon written notification (19.7(3)c.7)).

During the appeal period the student may continue to attend classes. However, assignments and examinations will not be graded until and unless the appeal is successful. If the appeal is lost no credit will be given for work completed subsequent to the date given in the original decision.

9) The final appeal in student discipline matters shall lie with the University Appeal Board. A decision of the University Appeal Board shall be final and binding.

19.8 Procedures for Academic Offences

(1) **Initiation and Conduct of Proceedings**

a. Any person who has reason to believe that a student is guilty of an academic offence may initiate proceedings against the student.

b. 1) Where a person has reason to believe that a student has committed an academic offence in a particular course or program, that person may communicate the particulars of the time and place of the alleged offence and provide to the student's instructor a brief summary of the conduct alleged to have been committed by the student. In cases where the alleged academic offence does not involve a specific course or program, the allegation of academic wrongdoing should be directed to the Dean of

the student's Faculty. Where the matter is considered by the Dean, the Dean shall have the same powers and duties as the instructor.

2) Where an instructor or Dean initiates the complaint, that person must prepare a written summary of the conduct leading to the offence alleged to have been committed by the student. The summary will form part of the documentation to be submitted to the Dean (§19.8(1)e).

c. The instructor must discuss the alleged offence with the student and with the Dean.

d. Where the instructor has reason to believe that an offence has been committed, the instructor may impose one or more of the following penalties:

1) Reprimand,
2) Additional work,
3) Grade reduction on the assignment,
4) Recommendation to the Dean that the student no longer be permitted to attend the course and that the student be given a mandatory grade of 1F which will appear on the transcript. The Dean may impose such a penalty.

In accordance with the provisions of §19.8(2)g, the student shall not be barred from attending and participating in the course pending the outcome of a possible appeal of the penalty.

5) Recommendation to the Dean that the student be suspended or expelled from the University.

e. Where a penalty other than reprimand is imposed, the instructor shall file with the Dean and the Dean of the Faculty in which the student is registered a statement in writing setting out:

1) a brief summary of the conduct alleged to constitute the offence, and
2) a statement in writing that the instructor has reviewed the alleged offence with the student, and
3) a brief statement giving details of the penalty imposed or recommended and reasons therefore.

f. The Dean shall notify the student of any penalty except for reprimand imposed under §19.8(1)d. Such notification shall be in writing and may be hand-delivered or shall be sent by double-registered mail to the address which has been provided to the University or to the Discipline Officer. Notice may be deemed to have been effected one week following mailing to the last known address.

g. The notice of penalty shall also include notification of the right to appeal the penalty to the University Appeal Board (see §19.8(1)d.(1-4) for appealable penalties) and that notice of appeal must be delivered to the Discipline Officer no later than fifteen (15) calendar days after receipt of the Dean's notification.

h. Where an instructor has recommended expulsion or suspension, the Dean shall alert and consult with the Dean of the Faculty in which the student is registered in regard to the situation concerning the student. After making such enquiries as the Dean considers necessary, the Dean shall either reject the recommendation or confirm and forward it to the Dean of Student Services.

i. Upon receiving a recommendation for expulsion or suspension, the Dean of Student Services shall review the matter by talking with all parties involved, and may either dismiss the charges or impose one or more of the penalties listed in §19.5.(1)b. In reviewing the matter, the Dean of Student Services shall disregard any previous disciplinary record. In the event that the alleged offender refuses to meet with the Dean to discuss the matter further, a decision and penalty shall be arrived at taking into account whatever evidence is available.

When considering what would be an appropriate penalty, the Dean of Student Services may take into account the disciplinary record, if any, of the student against whom the complaint is made.

j. Having reached a decision, the Dean of Student Services shall give a written report to the Discipline Officer. The report shall state what penalty, if any, is to be imposed upon the student, and the major circumstances taken into account in arriving at the decision.

k. Upon receipt of the above report, the Discipline Officer shall send a copy to the student and to the Dean. If a penalty has been imposed, the Officer shall advise the student of the right to appeal and shall forward a copy of the University Appeal Board Procedures.

(2) **Initiation and Conduct of Appeals**

a. A student may appeal the imposition of any penalty imposed under §19.8(1) by submitting a notice of appeal in writing to the Discipline Officer. Such notice must be received by the Officer no later than fifteen (15) calendar days after notification of the written decision of the Dean of Student Services. At the discretion of the Discipline Officer, an appeal may be accepted after the expiry of the fifteen days.

The appeal shall be based upon denial of the offence, and/or shall relate to the severity of the penalty.

b. If the Dean has reason to be aggrieved by the decision of the Dean of Student Services (§19.8(1)j), the Dean may appeal the decision by submitting a notice of appeal in writing to the Discipline Officer. Such notice must be received by the Officer no later than fifteen (15) calendar days after notification of the written decision of the Dean of Student Services. At the discretion of the Discipline Officer, an appeal may be accepted after the expiry of the fifteen days.

c. The notice of appeal must be in writing, signed by the appellant, and must state the grounds of appeal. The appellant must immediately notify the Discipline Officer upon retaining legal counsel or an adviser.

d. The Discipline Officer shall notify both parties to the original case before the Dean of Student Services of the date, time and place of the appeal hearing, which shall be at least fourteen (14) calendar days but no more than forty-five (45) calendar days following the receipt of notice of appeal. Each party shall receive a copy of the submission made to the Appeal Board by the other party. Each party will receive the names of Board Members and notification that either party may challenge membership to the Discipline Officer (§19.8(3)b.10)). The Discipline Officer shall also provide the student with a list of on-campus sources of assistance.

e. The Discipline Officer shall appoint the Appeal Board and provide its members with:

1) the date, time and place of the Appeal Hearing,
2) the letter of appeal and any submission from the respondent, and
3) the written report of the Dean of Student Services (or designate) if appropriate.

f. Notices may be hand-delivered or sent by mail. When sent by outside mail, they shall be sent by double-registered mail to the address which has been provided to the University or to the Discipline Officer. Notice may be deemed to have been effected one week following mailing to the last known address.

g. Upon receiving notice of appeal, the Discipline Officer, in cases of expulsion or suspension, shall direct the Registrar to withhold degrees, certification of marks and/or transcripts of records pending the outcome of the appeal. Any other penalties imposed under §19.8(1) shall be suspended upon receipt by the Officer of notice of appeal.

(3) **Establishment of the University Appeal Board**

a. **General**

Meetings of the University Appeal Board shall be scheduled as required to hear and determine appeals against disciplinary decisions of the Dean of Student Services, Instructors and Deans. The University Appeal Board, as designate of General Faculties Council and the Board of Governors, shall have authority to confirm, vary or quash penalties imposed under §19.8(1) by any one of the above-mentioned three bodies.

b. **Composition, Terms of Reference and Chair**

1) The University Appeal Board shall consist of the following regular members elected by General Faculties Council: two academic staff members from Categories A1.1, A1.5 or their counterparts in A1.6*, (one of whom shall hold the Chair upon election by the regular members of the Board), two undergraduate students and one graduate student.
2) All regular members shall come from different Faculties.
3) Where the appeal involves a graduate student, the Discipline Officer shall, by rotation, replace one undergraduate student with one alternate graduate student.
4) General Faculties Council shall also elect the following alternate members: three academic staff members (from Categories A1.1, A1.5 or their counterparts in A1.6*), four undergraduate students and four grad students. To the extent it is possible alternate members should come from di ent Faculties and from Faculties not alre represented by the regular members.

*See §5 of the GFC Policy Manua definitions of these categories of staff.

5) For the purposes of selection and servic the University Appeal Board, graduate dents are considered to be from the Fac where they receive supervision.
6) Terms of office for all academic staff m bers shall be up to three years as Gen Faculties Council shall determine. Acade staff members are eligible for re-election
7) All student members shall be elected fo to two-year terms and are eligible for election.
8) In order to ensure that no Board member be from a Faculty, if any, which is part the dispute, the Discipline Officer may place, by rotation, any regular member an alternate member from the same con uent group (i.e., staff, undergraduate stuc or graduate student). For this purpose, g uate students are considered to be from Faculty where they receive supervision.
9) All Board members should declare to Discipline Officer their interests, if any, particular case in order to ensure objecti and a fair hearing.
10) Appellant and respondent will be provid with the names of all Board members, re lar and alternate, and will have five calendar days after receipt of the names lodge a written challenge with the Discipl Officer requesting that a Board member serve on an appeal. Challenges may made only on the grounds that a Bo member may have a bias which would p vent a fair hearing. Challenges must inclu written reasons to support the request. If Discipline Officer concurs with the challe the Officer will replace the Board memb with an alternate member who will be sele ed by rotation from the same constitu group (i.e., staff, undergraduate student graduate student). The decision of the Dis pline Officer is final and binding.
11) Normally, the Chair of the Appeal Board be appointed to chair each hearing. In stances where the Chair cannot serve, t Discipline Officer shall appoint another ac demic staff member or alternate acaden staff member of the Board to chair the A peal Board hearing.
12) The quorum of the Appeal Board shall co sist of one academic staff member and t student members.

c. **Appeal Board Procedures for Academic O fences**

1) The appeal shall consist of a *de novo* he ing of the case.
2) i. The Appeal Board may accept any e dence that it, in its sole discretion, conside proper, whether admissible in a court of la or not; and

ii. The Appeal Board is not bound by th Alberta Evidence Act or the law of eviden applicable to judicial proceedings.

3) The Appeal Board shall conduct hearings a manner which, in its sole discretion, considers proper.
4) A defect in procedures shall not warrant th quashing of the decision unless the defe complained of can reasonably be said have deprived either party of a fair hearing
5) The Board shall hear the argument of bo sides to the appeal and then, by a majori vote, shall uphold or quash the decisio appealed from. Where a decision against student is upheld, the Board may confirm vary or suspend the penalty imposed.

The Appeal Board is authorized to receiv procedural advice from the Discipline Office
6) The Chair of the Board through the Disc pline Officer shall, where practical, immed ately communicate the decision of the Boar to the student.
7) The Chair shall submit the written decision the Board to the Discipline Officer withi seven (7) calendar days of the Board's dec sion being reached.

The Discipline Officer shall then send t both parties and to the Dean of Studer Services a copy of the Board's decision. Th procedure for service of this report shall b that given in §19.8.2(f).

8) Any penalty confirmed shall be deemed to have taken effect on the date determined in the original decision. Any new penalty shall take effect immediately upon oral notification (§19.8(3)c.6)) or, failing that, upon written notification (19.8(3)c.7)). During the appeal period the student may continue to attend classes. However, assignments and examinations will not be graded until and unless the appeal is successful. If the appeal is lost no credit will be given for work completed subsequent to the date given in the original decision.

9) The final appeal in student discipline matters shall lie with the University Appeal Board. A decision of the University Appeal Board shall be final and binding.

9 Students' Records and Transcripts

ension imposed for disciplinary reasons shall appear ident records and transcripts until the suspension is In the case of expulsion, an entry shall appear on nt records and transcripts permanently or until such as the student is readmitted to the University.

Where the date for commencement of the suspension pulsion appears on the student records and transs, that date shall be determined in accordance with (2).

Withdrawals resulting from suspension or expulsion ions will result in grades of "W" which will remain part permanent academic record.

10 Disciplinary Problems in Programs Outside the Regular Winter Session or Intersession

n the case of disciplinary problems with students in ams given by the University which lie outside the ar Winter Session or Intersession programs, GFC ates to the Dean concerned the authority to take aver action is deemed necessary. The student may al the Dean's decision to the Dean of Student Servwhose decision shall be final and binding.

11 Exclusion from Class for Disruptive Behavior

Note: In these regulations the term "class" refers to a d of instruction such as a lecture, a laboratory, a nar, a tutorial, etc.

Exclusion from Class by an Instructor

a. When a student disturbs, disrupts, or otherwise interferes with classroom activities, the instructor may immediately exclude the student from the course for a particular class and may also exclude the student from the next subsequent class in that course.

b. If the behavior persists when the student is readmitted to class, the instructor may again immediately exclude the student from the class and must lay a charge against the student under §19.3(1) of the Code of Student Behavior. The student's exclusion from class will be in effect until a final decision is reached by the Dean of Student Services or by the University Appeal Board. If a student is re-instated by a decision of the Dean of Student Services or by the University Appeal Board, such decision shall not invalidate the prior action of the lecturer. The Department Chair shall, however, ensure that every effort is made to make up the student's lost class time, but the University shall not be held legally responsible for any lost class time.

Exclusion from Class by a Dean

a. If the Dean of a Faculty where a course is taught is of the opinion that the disruptive behavior of a student does or may detrimentally affect more than one course, then the Dean may exclude a student from specified courses in that Faculty for up to five classes.

b. A student may appeal the Dean's decision to the University Appeal Board. Notwithstanding time limits specified in the Code of Student Behavior, the University Appeal Board shall be scheduled to meet within fourteen (14) calendar days after the appeal has been lodged.

c. If a student is re-instated by the University Appeal Board, such decision shall not invalidate the prior action of the Dean. The Department Chair shall, however, ensure that every effort is made to make up the student's lost class time, but the University shall not be held responsible for any lost class time.

(3) **Apprehended Danger and Mandatory Exclusion from the University:** If an instructor or University official responsible for an area or activity is of the opinion that a student's behavior or conduct while engaged in a recognized University or student activity constitutes a danger, or risk of danger to the student concerned or to other persons or property, the official responsible may recommend to the Dean of the Faculty in which the student is enrolled that the student be excluded from the University. See §19.12.

19.12 GFC Delegation of Powers Concerning Mandatory Exclusion for Reasons of Apprehended Danger

(1) **Responsibilities of the Faculty Dean and the Dean of Student Services.**

a. When the Dean of a Faculty in which a student is enrolled is of the opinion that the continued presence of the student on campus or in a University-sponsored activity off-campus constitutes a danger to that student or to other people or property, the Dean may decide that the student be excluded from the University immediately.

The Dean of Student Services is also empowered to act under the above provision and will consult with the Dean of the student's Faculty at all stages; therefore, in §19.12, whenever "a Dean" or "the Dean" is mentioned, these references may refer to either the Dean of the Faculty in which the student is enrolled, or the Dean of Student Services.

b. In addition to any verbal communication, the decision of the Dean shall be formally communicated to the student in writing together with reasons for the decision and conditions which must be met by the student before return to campus will be permitted. The Dean shall inform the student that there is a 15-calendar-day deadline, from the date of receipt of the Dean's letter, to lodge an appeal. The Dean must provide the student with the appeal regulations.

c. Any notices sent by the Dean shall be hand-delivered at the soonest opportunity by Campus Security to the address which has been provided to the Unviersity or to the Discipline Officer.

d. The Dean is required to notify the following persons of the mandatory exclusion: the Registrar, the Dean of Student Services, other Deans affected, the Director of Campus Security, the Director of the University Secretariat, the Discipline Officer, the student's course instructors, and, where appropriate, the Director of Housing and Food Services.

e. Any reflection of the decision on the student's official record (transcript) will be in accordance with regular procedures governing illness, eg. students who are excluded for a short interval may apply for a deferred examination (see §16.5 of this Calendar). Pursuant to arrangements between the student's Faculty and the Registrar, students who are excluded for a lengthy interval may be withdrawn from courses on their current registration without penalty.

f. When it appears that a Dean may take action under this delegated authority, every effort will be made to offer the student advice, or alternatively, the student will be referred to the appropriate area in the Office of the Dean of Student Services.

(2) **Appeal Provisions**

a. The student may appeal the Dean's decision to the University Appeal Board according to the procedures set out below. The student shall not be permitted on campus for any purpose without the Dean's prior written approval until an appeal is heard and a decision rendered.

b. The student (hereinafter cited as the 'appellant') may appeal the decision by lodging a written appeal with the Discipline Officer within 15 calendar days after the decision was delivered or deemed to have been delivered to the appellant.

c. The Discipline Officer shall call a meeting of the Unviersity Appeal Board (UAB) which shall be scheduled to meet within 15 calendar days after the Discipline Officer receives the appeal.

The composition and terms of reference of the UAB are set out in §19.7.3(b) of the Code of Student Behavior.

d. Notices sent by the Discipline Officer shall be hand-delivered at the soonest opportunity by Campus Security to the address which has been provided to the University or to the Discipline Officer.

e. The Dean (hereinafter cited as the 'respondent' and the appellant shall be given one week's notice (either written or verbal) of the date and time of the hearing by the Discipline Officer.

f. If the appellant or respondent neglects or refuses to appear at the time of the hearing, the UAB may in its discretion, proceed with the hearing and either grant or deny the appeal. Either party may be accompanied by legal counsel or other representative.

g. 1) The Appeal Board may accept any evidence that it, in its sole discretion, considers proper, whether admissible in a court of law or not; and

2) Is not bound by the Alberta Evidence Act or the law of evidence applicable to judicial proceedings.

h. The Appeal Board shall conduct hearings in a manner which, in its sole discretion, it considers proper.

i. A defect in procedures shall not warrant the quashing of the decision unless the defect complained of can reasonably be said to have deprived either party of a fair hearing.

j. After all presentations are heard, the parties shall be excused and the Appeal Board shall reach a decision.

k. Where the appeal is granted, the UAB may uphold, vary, or suspend the original decision, including any conditions for the student's return to campus.

l. If the UAB upholds the appeal, such decisions shall not invalidate the prior action of the Dean. Every effort shall be made, however, to ensure that the student's lost class time is made up. Any reflection of the decision on the student's official record (transcript) will be in accordance with regular procedures governing illness. (See §16 of the Calendar.)

m. The Discipline Officer shall send via Campus Security the written decision to the appellant and respondent.

n. The University Appeal Board's decision shall be final and binding.

o. Students who are excluded under this provision may only be reinstated at the University with the written permission of the Dean of the Faculty in which they are enrolled and the written permission of the Dean of the Faculty they wish to enter.

19.13 Administration Requirements

All applications for approvals to engage in any of the following activities must be made in writing to the appropriate authority and shall be approved or rejected with written reasons attached.

(1) The outdoor use of public address systems, loudspeakers, bull-horns, sound trucks, or similar equipment on the campus of the University is not permitted without the prior written approval of the Director of Physical Plant. It should be noted that City of Edmonton bylaws apply on peripheral streets.

(2) The use of the name of the University or the emblem or coat of arms of the University, or of a registered University group, on any publication, including correspondence, without the written approval of the Office of the Vice-President (Administration) is prohibited. An appeal shall lie with the Board of Governors. As a matter of policy, such approval will not be granted to anonymous publications.

(3) The use of alcoholic beverages on the campus of the University is regulated for registered University groups under the terms and conditions of the University's Institutional Licenses. Authorization for functions involving the service of alcohol is controlled by the Office of the Dean of Student Services. Appeals shall lie with the Office of the Vice-President (Student and Academic Services).

(4) In order to obtain an excused absence from examinations, tests and other academic requirements, off-campus trips by individuals, groups and teams representing student organizations must be approved by the Dean of Physical Education and Recreation (or designate) in the case of athletic matters and by the Deans' Council or its designate in all other cases. An appeal from decisions in this regard shall lie with the Vice-President (Academic).

(5) Arrangements for showing films on campus, except for those used as part of the academic or academically related programs, must be made through the Office of the Registrar (Examinations and Timetabling) in accordance with the procedures as set out in the Manual of Administrative Policies, Procedures and Services, §03-030. The Executive Assistant to the Vice-President (Administration) may make regulations from time to time for the aforementioned purpose in conformity with the Alberta Amusements Act and other applicable provincial legislation. An appeal shall lie with the Vice-President (Administration).

(6) University individuals, groups and organizations may advance a cause and distribute or sell related literature or other similar material:

a. in designated Activity Zones, provided that the use of the Zones has been reserved in advance with the Office of the Registrar (Examinations and Timetabling) and provided that permission has been obtained from the Executive Assistant to the Vice-President (Administration). An appeal shall lie with the Vice-President (Administration).

b. in areas other than Activity Zones with the prior approval of the Dean or other administrative officer or committee in charge of the area. An appeal shall lie with the Office of the Vice-President (Academic).

(7) Canvassing and soliciting are forbidden on the campus of the University. Exceptions may be made only by the Executive Assistant to the Vice-President (Administration). An appeal shall lie with the Vice-President (Administration).

(8) University groups or individuals wishing to invite the general public to on-campus events or to sponsor off-campus speakers are responsible for so informing the Director of Campus Security and for making related arrangements including space reservations, protection of persons and property, and payment of any related costs. Additional information may be obtained from the Office of the Vice-President (Administration).

(9) Members of the University community may put up posters and notices on "open" notice boards as long as the posters and notices do not create a nuisance. Enquiries concerning other displays or signs on University property should be directed to the Dean of Student Services. Notices may not be affixed to trees or shrubs. The libraries, food service areas, the Administration Building, and University Hall are to be kept free of any but official notices.

19.14 University Student Group Registration Procedures

(1) **Definition**

Student Group

For the purposes of these regulations, the term "student group" shall include, but not be limited to, club, association, organization, society, fraternity, sorority, fellowship.

(2) **Requirements for Registration:** University student groups are required to register with the University through the Office of the Dean of Student Services in order to ensure that each group accepts its share of responsibility for protecting the property and the good name of the University.

A non-registered University student group shall not be permitted to carry on activities of any description whatsoever on University property.

To be eligible for registration a group must be able to provide, upon request, satisfactory evidence of the following:

a. That the group's stated purposes, goals or activities comply with the philosophy of the University as stated in §30.1 of the GFC Policy Manual; and that the group is willing to assume the responsibilities inherent in that philosophy.

b. That the group is duly constituted.

c. That a minimum of two-thirds of the total membership, and 75% of the executive, must be registered as part-time or full-time students during the current academic year.

d. That an acceptable constitution exists. (Guidelines to group constitutions are available in the Office of Student Services.)

e. That in the case of clubs previously registered a minimum of one general meeting has been held during the past twelve months.

f. That a minimum of one general meeting is scheduled during the next twelve months.

g. 1) that a bank account in the name of the group exists,
2) that a **minimum** of two signatures of executive officers are necessary for most banking transactions,
3) that all monies go toward the operating expenses of the group, as it carries out its stated purpose/objectives/goals, and
4) that financial records are maintained in proper order for possible auditing.

h. **Indemnification:** That the group completes an indemnification agreement.

At the discretion of the Dean of Student Services or designate, the group shall provide a bond in an amount to be fixed by the Dean of Student Services.

In the event of any damage to University property the bond will be used to pay the cost of the damage.

(3) **Registration Procedures:** To apply to become a registered University of Alberta student group, or to re-register (if registered the previous academic year), a group must,

a. Complete the appropriate Application for Registration/Re-Registration Form (available from the Office of the Dean of Student Services).

b. Complete a University of Alberta Indemnification Agreement indemnifying the University from all liability in respect of any acts of the club, its members, or its executive (available in the Office of the Dean of Student Services).

c. Forward the completed form, the signed and witnessed Indemnification Agreement, and a current constitution to the Office of the Dean of Student Services.

Within two weeks of receiving a completed registration/re-registration form and a copy of the group's current constitution, the Office of the Dean of Student Services will notify the applicant as to the registration status. The applicant will be given either:

a. Full Registration Status for the academic year, or

b. Provisional Registration Status, subject to the provision of additional information. The additional information may take the form of any of the following:

1) a complete membership list, including addresses, phone numbers, and ID numbers. (Students who do not wish to divulge their student ID numbers to the group may submit a Statutory Declaration to the group to the effect that they are bona fide University of Alberta students.)
2) a financial statement for the preceding year. If an audit is necessary, the complete accounts for the club should be available.
3) the minutes of general meetings held during the last twelve months.

Such information shall be regarded by Student Services as confidential.

(4) **Denial or Termination of Registration:** The Dean of Student Services or designate may deny or terminate group registration under any of the following conditions:

a. The group's stated objectives or activities or the manner of carrying out its activities would, in the opinion of the Dean of Student Services, by their very nature, be unlawful.

b. The group's stated objectives or activities or the manner of carrying out its activities would, in the opinion of the Dean of Student Services, by their very nature, lead to justified complaints under the Code of Student Behavior.

c. The group's stated objectives or activities or the manner of carrying out its activities would, in the opinion of the Dean of Student Services, by their very nature, offend the provisions of the Individual's Rights Protection Act (and/or any other human rights legislation that applies in this Province).

d. The group's stated objectives or activities or the manner in carrying out their activities will place non-group members in danger beyond that accepted normally by those who use the facilities of the campus;

e. The group's purposes, goals or objectives b manner in carrying out their activities do n the opinion of the Dean of Student Ser comply with the stated philosophy of the Unive

f. In the course of carrying out its activities group or any of its members fail to comply the University Administration Requiremen the Code of Student Behavior (§19.13).

g. The group no longer meets the minimum req ments for registration, as set out in §19.14(2

h. The group or any of its members has not sati torily carried out its responsibilities to protec property and good name of the University.

(5) **Appeal of Termination or Denial of Registrat** Appeal of any decision made by the Dean of Stu Services shall be made through the existing Unive appeal procedures within thirty (30) days.

(6) **Complaints Against Member(s) of a Group:** C plaints against a member or members of a group be to the Discipline Officer and subsequent proc ings will be dealt with by the established Disci Procedures.

Financial reparation will be an automatic pe for any damage inflicted by a group or members group. The direction to make financial reparation be made against a group, or any members of group, or both. Furthermore, at the discretion o Dean of Student Services any of the following pe ties may be levied **in addition** to the above:

a. termination of group registration,

b. fine of not more than $500,

c. suspension or curtailment of group privileges

d. reprimand,

e. posting of a bond.

Where it is mutually acceptable to the Dea Student Services and the group, the group or an its members may perform community services, e on or off campus, without compensation for s services. Said services may be in addition to or in of any of the penalties contained in the preceding

(7) **Review/Revision Process:** The Office of the Dea Student Services shall present an annual report Group Registration to the Campus Law Review C mittee for review and possible revision of proced and policies.

19.15 Administrative Information

(1) University groups or individuals sponsoring funct on or off-campus are responsible for maintain discipline and enforcing liquor and other regulati on the premises where the functions are being he

(2) All students living in or attending a University r dence are subject to the rules and regulations of t residence. Rules and regulations in force includ any amendments are posted at the business offic the residence, or in the areas affected.

(3) All persons owning, operating or parking vehicles University property are subject to the current Tra and Parking Regulations of the University of Albe Information about Traffic and Parking Regulations force, including any amendments, may be secu from Parking Services.

(4) Persons desiring to carry on commercial activity property under the government and control of Students' Union should obtain permission from Students' Union.

(5) The University of Alberta comes under the purview the Alberta Fire Prevention Act, R.S.A. 1970 c. and the regulations therein. The University of Alb Board of Governors has approved and adopted University Fire and Safety Code that is applicable students, staff and visitors.

(6) By agreement with the American Federation of Mu cians (AFM), orchestras organized and playing campus need not consist wholly of Federation me bers, but all orchestras brought in to play for Univ sity functions must be made up of Federation membe For further information, students should contact t Secretary of the AFM (422-2449).

(7) The Campus Law Review Committee reviews t rules and regulations of the University relating student disciplinary matters on a continuing bas Members of the University community have the ri to speak to and make representations concerning t above at any duly constituted CLRC meeting.

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Agriculture and Forestry

Faculty of Agriculture and Forestry

Faculty of Agriculture and Forestry

.1 Members of the Faculty

in
Tyrchniewicz, PhD

ociate Deans
Kennelly, PhD
awiuk, PhD

istant to the Dean
rud'homme, BA

.1.2 Agricultural Engineering

fessor and Chair
onard, PhD (Instrumentation, Electronics)

fessors
Chanasyk, PhD (Soil Physics) (Joint appointment ith Soil Science)
Domier, PhD (Power and Machinery)
Feddes, PhD (Structures and Environment)
Harrison, PhD (Farm Machinery)
Micko, PhD (Wood Science)

ociate Professors
Anderson, MSc (Operations Research) (Joint ppointment with Rural Economy)

istant Professors
Kosicki, PhD (Forest Engineering) (Joint appointment ith Forest Science)
McCornick, PhD (Irrigation and Drainage)
Segado, PhD (Food Engineering) (Joint ppointment with Food Science)

junct Professors
ach, PhD (Wood Engineering)
Lindwall, PhD (Tillage and Seeding)
Clark, PhD (Animal Environment)

.1.3 Animal Science

fessor and Chair
Price, PhD (Livestock Growth and Meat roduction)

fessors
Aherne, PhD (Swine Production)
Christopherson, PhD (Animal Physiology)
Hardin, PhD (Biometrics and Poultry Genetics)
Hudson, PhD (Wildlife Management and roductivity)
Kennelly, PhD (Dairy Production)
Makarechian, PhD (Animal Genetics)
Mathison, PhD (Animal Nutrition, Beef Cattle)
Sauer, PhD (Swine Nutrition)
Thompson, PhD (Animal Biochemistry)
Young, PhD (Animal Physiology)

ofessor (NSERC Industrial Research Chair)
Foxcroft, PhD (Swine Reproductive Physiology)

sociate Professor
Baracos, PhD (Protein Metabolism)

sociate Professor (Poultry Technology Chair)
Sim, PhD (Poultry Technology)

sistant Professor
Salmon, PhD (Animal Biotechnology)

sistant Professor (Alberta Agriculture Research air)
Robinson, PhD (Poultry Production)

junct Professors
Cheng, PhD (Rumen Microbiology)
Church, DVM (Animal Health)
Gill, PhD (Ruminant Nutrition)
Morgan-Jones, PhD (Animal Growth, Meat roduction)
Schaefer, PhD (Animal Physiology)
Van Aerde, PhD (Neonatal Research)

ministrative Officers
Carss, BSc
Strafford, MPM

Faculty Service Officers
T Fenton, BSc
B Kerrigan

31.1.4 Entomology

Professor and Chair
RH Gooding, ScD (Insect Biochemistry, Medical Entomology)

Professors
GE Ball, PhD (Systematics, Morphology, Evolution, Zoogeography)
DA Craig, PhD (Morphology, Hydrodynamics)
BS Heming, PhD (Morphology, Development)
BK Mitchell, PhD (Physiology, Behavior)

Associate Professor
JR Spence, PhD (Ecology, Systematics)

Assistant Professor
BA Keddie, PhD (Insect Pathology)

Adjunct Professor
WJA Volney, PhD (Forest Entomology)

Administrative Officer
RT Mikalonis, BScAg

31.1.5 Food Science

Professor and Chair
FH Wolfe, PhD (Food Chemistry)

Professors
D Hadziyev, PhD (Food Chemistry)
H Jackson, PhD (Food and Industrial Microbiology)
P Jelen, PhD (Food Processing)
B Ooraikul, PhD (Food Processing)
P Sporns, PhD (Food Chemistry)
ME Stiles, PhD (Food Microbiology) (Joint appointment with Foods and Nutrition)

Associate Professor (Dairy Processing Technology Research Chair)
L Ozimek, PhD (Dairy Technology)

Associate Professor
M Palcic, PhD (Enzymology)

Assistant Professor
RR Segado, PhD (Food Engineering) (Joint appointment with Agricultural Engineering)

Adjunct Professors
GG Greer, PhD (Food Microbiology)
GE Phillipchuk, MSc (Food Processing, Food Microbiology)
L Roth, MSc (Food Microbiology)
DJ Schroder, PhD (Food Processing, Technology Transfer)

Administrative Officer
A Knowles, MA

31.1.6 Forest Science

Professor and Chair
BP Dancik, PhD (Dendrology and Forest Tree Improvement)

Professors
JA Beck, PhD (Integrated Forest and Wildlife Habitat Management, Timber Supply Analysis)
JR Butler, PhD (Wildland Recreation, Management and Planning, Environmental Education)
PJ Murphy, PhD (Forest Recreation, Forest Policy and Administration, Forest Fire Control and Use)
RL Rothwell, PhD (Forest Hydrology)
RW Wein, PhD (Northern Forest Ecology)
PM Woodard, PhD (Forest Fire Management)

Professor (NSERC Industrial Research Chair)
FC Yeh, PhD (Forest Genetics)

Associate Professors
JD Heidt, PhD (Outdoor Recreation and Resource Economics)
VJ Lieffers, PhD (Silverculture/Ecology)
SJ Titus, PhD (Resource Measurements and Mensuration)

Assistant Professors
K Kosicki, PhD (Forest Engineering) (Joint appointment with Agricultural Engineering)
SE Macdonald, PhD (Forest Ecology, Ecophysiology)
J Zwiazck, PhD (Tree Physiology)

Adjunct Professors
P Achuff, PhD (Plant Ecology)
M Aguilar, PhD (Genetics)
L Bach, PhD (Wood Engineering)
J Brouard, PhD, (Tropical Silviculture/Genetics)
W Cheliak, PhD (Forest Genetics, Biotechnology)
KO Higginbotham, PhD (Forest Ecology, Tree Physiology)
Y Hiratsuka, PhD (Forest Pathology)
G Holroyd, PhD (Forest Wildlife)
L Morgantini, PhD (Wildlife Habitat)
S Navratil, PhD (Silviculture)
R Pharis, PhD, (Physiology of Flowering, Early Growth Evaluation)
G Proulx, PhD (Zoology)
GW Scotter, PhD (Forest Wildlife)
JM Snyder, PhD (Mycology, Ecology)
PHR Stepney, PhD (Forest Wildlife)
RH Swanson, PhD (Forest Hydrology)
TA Thorpe, PhD (Tissue Culture)

Administrative Officer
JM MacLellan, BScF

31.1.7 Plant Science

Professor and Chair
KG Briggs, PhD (Cereal Breeding and Agronomy)

University Professor
C Hiruki, PhD (Virology)

Professors
AW Bailey, PhD (Range Ecology and Management)
WHR Langridge, PhD (Plant Biotechnology, Molecular Genetics)
JP Tewari, PhD (Plant Pathology)
WH Vanden Born, PhD (Herbicides and Weed Physiology)
PD Walton, PhD (Plant Breeding, Forages)

Professor (Canola Research Professor)
GR Stringam, PhD (Plant Breeding)

Professor (Plant Biotechnology Chair)
AA Szalay, PhD (Plant Biotechnology, Molecular Genetics)

Associate Professors
PV Blenis, PhD (Plant Diseases)
A Horak, PhD (Plant Physiology)
NR Knowles, PhD (Horticultural Crop Physiology)

Assistant Professors
A Flanagan, PhD (Oilseed Physiology and Biotechnology)
JR King, PhD (Forage Physiology and Agronomy)

Adjunct Professors
H Bestman, PhD (Weed Physiology)
Y Hiratsuka, PhD (Forest Pathology)
R Howard, PhD (Horticultural Pathology)
RP Nagarajan, PhD (Plant Biotechnology, Forages)

Administrative Officer
VL Clarke

31.1.8 Rural Economy

Professor and Chair
WE Phillips, PhD (Forest Economics, Resource Economics)

Professors
LP Apedaile, PhD (Agricultural Policy, Rural Development)
L Bauer, PhD (Farm Management, Production Economics)
DS Gill, PhD (Rural Sociology, Agricultural Extension)
ML Lerohl, PhD (Production Economics, Agricultural Policy)
EW Tyrchniewicz, PhD (Transportation, Agricultural Policy, International Development)
MM Veeman, PhD (Marketing, Trade)
TS Veeman, PhD (International Development, Resource Economics) (Joint appointment with Economics)

Associate Professors
W Adamowicz, PhD (Econometrics, Resource Economics)
AW Anderson, MSc (Operations Research) (Joint appointment with Agricultural Engineering)
LF Constantino, PhD (Forest Economics)
DG Murri, MS (Rural Sociology)

Associate Professor (AARI Research Professor)
JS Eales, PhD (Marketing)

Assistant Professors
JR Fulton, PhD (Industrial Organization, Marketing)
FS Novak, MSc (Finance, Production Economics)

Adjunct Professors
GW Lamble, PhD (Extension Education)
GA Mumey, PhD (Finance, Management)
EC Murray, PhD (Family Studies)
BT Oleson, PhD (Marketing, Trade)
HB Percy, PhD (Resource Economics, Forest Economics)
WA White, PhD (Forest Economics)

Administrative Officer
RR Norby, MSc

Faculty Service Officer
JH Copeland, MSc

31.1.9 Soil Science

Professor and Chair
JA Robertson, PhD (Agronomy)

Professors
DS Chanasyk, PhD (Soil Physics) (Joint appointment with Agricultural Engineering)
MJ Dudas, PhD (Soil Chemistry and Mineralogy)
WB McGill, PhD (Soil Biochemistry)
MPK Nyborg, PhD (Soil Fertility)
S Pawluk, PhD (Soil Genesis and Classification)
DJ Pluth, PhD (Forest Soils)

Associate Professors
PH Crown, PhD (Remote Sensing, Soil/Land Evaluation)
NG Juma, PhD (Soil Biology and Ecology)

Assistant Professors
YS Feng, PhD (Soil Physics)
RF Grant, PhD (Agronomy)

Assistant Professor (AARI Research Professor)
RC Izaurralde, PhD (Soil Conservation)

Adjunct Professsors
SA Abboud, PhD (Soil Chemistry)
GM Coen, PhD (Soil Genesis and Classification)
WW Pettapiece, PhD (Soil Genesis and Mineralogy)
LW Turchenek, PhD (Peatlands, Wetlands, Soil Classification)

Faculty Service Officer
TC Martin, MSc

31.1.10 Additional Members of Faculty Council

President and Vice-Chancellor
P Davenport, PhD

Professors
JN Campbell, PhD (Microbiology)
K Gupta, PhD (Economics)

Associate Professors
DJ Gifford, PhD (Botany)
O Hindsgaul, PhD (Chemistry)
W Krzymien, PhD (Electrical Engineering)
PJ Martin, PhD (Extension)

Assistant Professor
AG Good, PhD (Genetics)

Representatives
KC Davies, BScAg, Alberta Institute of Agrologists
C Henderson, BScF, Canadian Institute of Forestry
BSc Agricultural Business Management - one student representative
BSc Agricultural Engineering - one student representative
BSc Agriculture - four student representatives
BSc Food Science - one student representative
BSc Forestry - two student representatives
Graduate Studies and Research - one student representative

Registrar of the University
BJ Silzer, MEd

31.2 General Information

The Faculty of Agriculture was established at the University of Alberta in 1915 and the first students to receive the degree of Bachelor of Science in Agriculture (BSA) graduated in 1918. The present BSc degree was first given in 1924. A forestry program leading to the BSc degree was authorized in 1970. The first students registered in this program commenced studies in the fall of 1970. The first degrees in Forestry were granted in 1974. The four-year programs in Agriculture and Forestry are professional ones, providing education in many facets of the science of agriculture and forestry. The Faculty has under its direct administration the Departments of Agricultural Engineering, Animal Science, Entomology, Food Science, Forest Science, Plant Science, Rural Economy, and Soil Science. Many of the courses which are fundamental to the science of agriculture and forestry are given in other departments of the University since the underlying scientific principles are the same as in any other field. It is the function of the departments in this Faculty to apply these principles to the solution of agricultural and forestry problems and to seek, through research, new information.

A modified first year in Agriculture or Forestry may be taken at the University of Calgary, the University of Lethbridge, or one of the affiliated junior colleges.

The second, third, and fourth years in Agriculture or Forestry are offered at the University of Alberta only.

A four-year program in Agricultural Engineering leading to the degree of BSc (Ag Eng) is offered jointly with the Faculty of Engineering. The first degrees were awarded in 1980. See §33.2.

A four-year program is offered in Food Science leading to the degree of BSc (Food Science). The first degree was awarded in 1969. See §33.3.

Two years of pre-Veterinary Medicine may be taken at the University of Alberta with a view to application for admission to the four-year program in Veterinary Medicine at the Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon. (See special program, §33.5 below.)

The departments in the Faculty also offer advanced degrees, and carry on extensive programs of research. The Departments of Agricultural Engineering, Animal Science, Entomology, Forest Science, Plant Science, and Soil Science operate off-campus facilities used in the teaching and research programs of these Departments. All departments have space and facilities for laboratory research.

Agricultural graduates are engaged in teaching, research, extension, and administrative work related to agricultural production, marketing, and processing; in the manufacture and distribution of such essentials as feeds, fertilizers, and machinery; in the handling of agricultural products; and in farming. In recent years an increasing number of agricultural industries have offered attractive opportunities for graduates of this program.

Forestry graduates are employed by the Federal and Provincial Governments and by industries associated with the production and marketing of forest products.

Agricultural Engineering graduates are employed by manufacturing industries, government departments, colleges and universities, resource-related companies, consulting engineering firms, and international development agencies.

Food Science graduates are employed in management, quality control, production, research, teaching, sales, product development and inspection positions with food processing and related industries, with Federal and Provincial government departments, and with colleges and universities.

32 Faculty Regulations

32.1 Admission

Detailed admission requirements of the Faculty of Agriculture and Forestry are set out in §13 of this Calendar.

32.2 Academic Standing

(1) **Academic Performance:** The Faculty of Agriculture and Forestry makes use of the grade point average for gauging academic performance (see §16.4). Grade point average is calculated at the end of each session and is related to academic performance as follows:

Category A: Satisfactory performance
Category B: Unsatisfactory performance; improved performance required
Category C: Unsatisfactory; required to withdraw

Year 1
Category A: GPA 5.0 or greater
Category B: GPA 4.0 to 4.9
Category C: GPA 3.9 or less

Year 2
Category A: GPA 5.5 or greater
Category B: GPA 4.0 to 5.4
Category C: GPA 3.9 or less

Years 3 and 4
Category A: GPA 5.5 or greater
Category B: GPA 4.5 to 5.4
Category C: GPA 4.4 or less

Students placed in Category B for two cor tive years or students placed in Category normally be required to remain out of the Fac Agriculture and Forestry for one year. Student then apply for re-admission may be readmitt probationary students. Such students will b quired to attend full-time and successfully cor 24 units of course weight with a Category A ing during the probationary year in order to co in the program.

For purposes of this regulation, year of pr will be defined according to the number of u course weight completed:

Year 1: less than 30 units of course weight
Year 2: 30 or more, but less than 60 units of c weight
Year 3: 60 or more, but less than 90 units of c weight
Year 4: 90 or more units of course weight

(2) **Graduation Requirements:** In order to be e for graduation from the BSc in Agriculture, B Agricultural Business Management, BSc in Science, and the BSc in Forestry programs dents must obtain a 5.5 grade point avera better in 60 units of course weight taken durin third and fourth years.

In cases where more than 60 units of weight were taken in the last two years, the from all courses taken in the last year will be u the GPA calculation and additional courses selected from the previous term or terms as sary to make up the 60 course-weight requir The courses selected from the previous term or as necesary will be those with the highest grad

In cases where fewer than 60 units of weight were taken in the last two years, the from all courses taken in the last two years used in the GPA calculation, and additional c will be selected from the previous term or ter necessary to make up the 60 course-weight re ment. The courses selected from the previous t terms as necessary will be those with the grades.

(3) **First Class Standing:** Students should note t the purposes of scholarships and awards, th ulty states that First Class Standing in a give shall be awarded to any student who obt grade-point average of not less than 7.5, the be computed using the grades of the high units of course weight taken during that yea year to consist of first and second terms in session. The grades of the previous secon would be used for those students who atter term only of the current year. With Distinctio be awarded to a student achieving a grad average of 7.5 or better on the last 60 u course weight with the GPA being calculated same way as determination of the GPA requi graduation (see (2) above).

(4) **Reexaminations:**

a. An undergraduate student in the Fac Agriculture and Forestry will not norm permitted a reexamination. However, if dent's performance in a final examinati gardless of the grade achieved, is substa below the instructor's expectation, a reexam will be allowed.

b. If a reexamination is approved the fol policies apply:

i) The reexamination mark replaces th nal examination mark in determini final grade of the course.

ii) For reexamination in courses und jurisdiction of other faculties, the r those faculties also apply.

c. Agricultural Engineering students are go in the matter of reexamination by the Fac Engineering. (See §82.3(9) of this Calen

d. Students requesting a reexamination must follow the procedures detailed in §16.5.4 of this Calendar.

Failed Courses: In accordance with §15.1.3 of this Calendar, courses required by a student's program which are not successfully completed must be repeated at the first possible opportunity. Students who fail a course so repeated will not be permitted to continue in the Faculty program in which they are registered until such time as the requirement has been fulfilled.

Note: For the purposes of interpreting Agriculture Forestry's academic standing regulations a full-time ent is defined as one who is enrolled in the equiva- of 12 or more units of course weight in a term; and a ational year is defined as two consecutive regular lemic terms i.e., first and second-term of one winter ion or second-term of one winter session and first- of the next.

.3 Curriculum and Graduation

The programs for the BSc degrees in Agriculture, Food Science, Forestry, and Agricultural Business Management must conform to the descriptions in §§33.1, 33.2, 33.3 and 33.4 respectively. All students should seek counselling about their programs from their program advisers. Students are reminded of the regulation that they are responsible for the completeness and accuracy of their registrations.

The Faculty may, for adequate reasons, permit students to register in more or fewer courses in a given academic year than their programs normally entail. This may result in decreasing or increasing the length of time for graduation. **Students wishing to take more than 18 units of course weight per term must obtain the written approval of the Dean.**

Students registered in degree programs in the Faculty must have successfully completed a minimum of 120 course-weight equivalents. Students who register for more than the minimum number of courses for graduation must designate the additional courses as extra. **In order to exclude courses in excess of the minimum requirement from the contract for graduation, students must designate such courses as "extras" at the time of registration for the final year.**

In addition, (i) students registered in the BSc Agriure program and the BSc Agricultural Business Manment program are required to complete **AGFOR 304, d Trip** (normally between the second and third year) **AGFOR 451, Professional Agriculture;** (ii) stuts registered in the BSc Forestry program are reed to complete **FOR 301, Forestry Field Camp.**

.4 Withdrawal from Courses

Withdrawal from individual courses can be arranged ugh the Dean's Office in consultation with the pron adviser. Applications for withdrawal should be e according to the deadlines listed in the Academic edule (§11).

.5 Transfer from Other Programs

Students transferring into any BSc program offered he Faculty of Agriculture and Forestry (regardless of ther they are transferring from other programs ofed by the Faculty, other faculties of the University of arta, other universities, or colleges) must meet all of requirements of the program in which they are stered, in addition to meeting the residence requireits of the University of Alberta. Students in the Faculty griculture and Forestry normally will not be permitted egister in any two degree programs simultaneously.

.6 Holders of Previous Degrees

Holders of previous degrees registering in BSc proms offered by the Faculty must meet all requirements of these programs. Holders of four-year degrees will be required to complete a minimum of 54 units of course weight with a GPA of at least 5.5. Holders of three-year degrees will be required to complete a minimum of 84 units of course weight with a GPA of at least 5.5 in 60 units of course weight normally taken during the last two years of the program.

32.7 Graduates of Agricultural Diploma Programs

Graduates of approved two-year diploma programs in Agriculture, with a cumulative grade point average equivalent to 2.7 or higher on the four-point scale, may receive University credit for up to 30 units of course weight. These course credits will be selected from among 200 and 300 level courses by the Dean in consultation with the student's program adviser. The Faculty recommends this route as an excellent preparation for a career in the agriculture and food system, particularly for prospective students with limited practical experience.

32.8 Graduates of Institutes of Technology

Graduates from related programs at Institutes of Technology may be granted some advance placement or transfer credit upon the recommendation of the adviser in the student's program.

32.9 Appeal Procedures

Students who have problems that may become the subject of appeals should exhaust all informal avenues of consultation before making official appeals.

Students who wish to object to decisions related to academic regulations and program requirements should first discuss the problem with the Dean. If not satisfied with the response they may petition the Academic Coordinating Committee of the Council of the Faculty of Agriculture and Forestry in writing. This committee is empowered to allow exceptions to such regulations and requirements. Students are normally expected to be present at the petition hearing. Students will be advised in writing of the outcome of their petitions.

Matters regarding students' academic standings may become the subject of appeals. Before making appeals students should consult with the Dean to ensure that all informal avenues of reaching solutions have been explored. If students are still not satisfied they should obtain a copy of the Faculty Appeal Regulations from the Dean's Office and follow the required procedures. In the event of an unsatisfactory appeal relating to academic standing, students will be advised of the right to appeal to the GFC Academic Appeals Committee. An appeal to the GFC Academic Appeals Committee must be initiated, in writing, within 30 calendar days of the Faculty Appeals Committee hearing (see §16.8 of this Calendar).

33 Programs of Study

33.1 The Degree of BSc in Agriculture

33.1.1 General Information

(1) The Faculty offers courses leading to the degree of Bachelor of Science in Agriculture. The objective of the degree is stated as follows:
To teach the scientific principles underlying the many facets of agriculture together with their application in agricultural and food systems, and, through a broadly based educational experience, to develop the capacities for critical and independent thought and clear expression.

(2) Most courses are specified as required during the first year.

(3) Beginning in the second year, students may follow a general program providing a broad training in agriculture or a specialized program in one of several fields of agriculture. **Course selection must be discussed with an adviser in the area of specialization.** Students registered in the general program must select their courses in consultation with a member of the General Program Advisory. The Dean of the Faculty will be pleased to confer with students at any time.

(4) **Students entering their third year who plan to follow a departmental specialization must consult with the department in which they plan to specialize.** It is highly desirable for them to work out a tentative program for both their third and fourth years at this time.
Students whose records to date would qualify them for graduate studies (a grade point average of 6.5 or better) may register in a more specialized program in the department in which they ultimately plan to undertake graduate study. Such a program must be approved **in advance** by the department of specialization and by the Dean.

(5) Students entering the third year will be charged a fee of approximately $100.00 to cover living expenses related to the two to three-day field trip taken at the beginning of September. This trip normally involves a bus tour of various agricultural industries located in Alberta and is one of the program requirements.

33.1.2 Required Courses in the BSc Agriculture Program

First Year Requirements:
AGFOR 101
AGFOR 104
BOT 199
CHEM 160 (or 104)
ECON 101/102
English - three units of course weight
MATH 113 (or 114)
ZOOL 120
Note: These courses must be taken in first year. Students transferring from other programs or institutions will be required to complete all the above courses in which they are deficient during their first year of attendance in the BSc Agriculture program at the University of Alberta.

Second, Third, and Fourth Year Requirements
(1) The distribution of courses over the final three years of the degree program will be as follows:
Group A: Three units of course weight in Statistics.
Group B: Twelve units of course weight from physical, biological, and social sciences taught outside the Faculty of Agriculture and Forestry (see note below).
Group C: Six units of course weight from humanities and fine arts taught outside the Faculty of Agriculture and Forestry (see note below).
Group D: Twenty-four units of course weight, 18 of which must be at the 300-level or higher from at least 5 different non-specialization departments within the Faculty.
Group E: Thirty-six units of course weight designated by the department of specialization.
Group F: Nine units of course weight as free electives.

(2) For students in the general agriculture program and in multi-departmental programs Groups D and E would be combined to give 60 units of course weight. A minimum of 48 of the 60 units of course weight must be taken from at least six departments within the Faculty. In addition, a minimum of 48 Faculty units of course weight must be at the 300-level or higher.

(3) Agriculture and Forestry 304 **Field Trip**: normally taken between second and third years. Requests for deferment to fourth year must be made in writing to the Dean of Agriculture and Forestry before July 1 of the appropriate year.

(4) Agriculture and Forestry 451 **Professional Agriculture**: normally taken by students during their fourth year.

Note: Courses in Group B will be considered to be those courses taught by the Faculty of Science plus those courses offered in the following disciplines: Anthropology, Economics, Geography, Linguistics, Political Science, Psychology, and Sociology. Courses in Group C will be considered to be those courses offered in the following disciplines: Classics, Christian Theology, Comparative and Other Literature, History, Languages, Philosophy, Religious Studies, and courses defined by the Faculty of Arts as fine-arts in §42.4(b) of this Calendar.

33.1.3 Modified First Year at the University of Calgary, the University of Lethbridge, and Elsewhere

Students at the University of Calgary, the University of Lethbridge, and at affiliated junior colleges may take a modified first-year Agriculture program. The second, third, and fourth years of the Agriculture program are offered only at the University of Alberta.

Details of the modified first-year program are available in the Calendars of these institutions.

33.1.4 General Program

The aim of the General Program is to ensure a broadly based knowledge of agricultural science, while allowing academic enrichment in those agricultural disciplines which are of particular interest to the student.

The following courses must be taken in the program as part of the requirements of the BSc Agriculture degree (see §33.1.2):

(1) AG EC 333, AG EC 384, and one of: AG EC 323, INT D 365, AG EC 373, R SOC 355, R SOC 391

(2) Two of AG EN 300, AG EN 305, AG EN 308, AG EN 310

(3) Six units of course weight from AN SC 300 (or 311); AN SC 460; AN SC 484 (or 485). One course from AN SC 380, AN SC 470, AN SC 472, AN SC 477, POULT 352.

(4) PL SC 331 or BIOCH 301

(5) ENT 207 or ENT 292

(6) FD SC 100 or FD SC 101

(7) PL SC 115, and two of: PL SC 350, PL SC 354, PL SC 355, PL SC 356

(8) SOILS 310 and six other units of course weight in Soils; not to include FOR 410

(9) Group D/E must include a minimum of 48 units of course weight from the Faculty at the 300-level or higher

33.1.5 Specialization in Agricultural Economics or Rural Sociology

The Department of Rural Economy offers specialized programs in Agricultural Economics and Rural Sociology. Concentrated programs are available in farm business management, marketing, natural resources, rural development, and extension. Concentrated studies are also available in Forest Economics. Information on course electives, curricula, and prerequisites for graduate studies may be obtained from the Department.

Agricultural Economics Specialization

The following courses are required in meeting the Faculty requirements (see §33.1.2): AG EC 315 and 316, R SOC 355, and 39 units of course weight of electives including 18 in agricultural economics (at least six units of course weight must be at the 400-level), three in accounting, six in economic theory, and six in any social science. It is recommended that students take three of the following four courses in their second or third years: AG EC 333, 373, 384, INT D 365.

The following electives are recommended especially for students interested in graduate studies: AG EC 416, ECON 386, 481 and 482.

Rural Sociology Specialization

The following courses are required to specialize in Rural Sociology: INT D 356, AG EC 315 and 373, R SOC 355, and 24 units of course weight of electives, including 12 in rural sociology, 12 in sociology, and three in any social science. Six of the Sociology units of course weight will be at the 400 level.

33.1.6 Specialization in Agronomy

This specialization deals with the theory of plant-soil relationships and the practice of field-crop production.

The following courses must be taken in the program as part of the requirements of the BSc Agriculture degree (§33.1.2):

AG EC 333 and one of AG EC 384 or INT D 302 or 303
AG EN 305
One of AN SC 300, 311, 372, 380, 460, 484, or 485
GENET 197
BOT 240
CHEM 104 and 160 (or 260)
ENT 207
MICRB 193
PL SC 352, 354, 355, 380, 465
SOILS 310, 360, 420, 460 and one of 430 or 440.

Program must include one additional course from the Faculty at the 300-level or higher. Selection of this course should be made in consultation with the Agronomy adviser. It is strongly recommended that SOILS 461 be taken as one of the electives.

33.1.7 Specialization in Animal or Poultry Science

This specialization is intended for students with an interest in animal agriculture. The program is designed to ensure that students will have a broad exposure to the fundamental principles of animal production, but also have sufficient flexibility to pursue in detail specific aspects of animal science.

Organic Chemistry (CHEM 160 or equivalent) and GENET 197 or equivalent are requirements for those specializing in the Department of Animal Science. In addition, an introductory course in biochemistry (PL SC 331 or equivalent) is highly desirable. Students are advised to take their biochemistry and animal physiology courses in their second year and advanced animal production and management courses in their third or fourth year. Assistance with program choices is provided by the Department.

Livestock Majors: A minimum of 24 units of course weight at the 300-level or higher in animal science is required. Of these, students must take at least three units of course weight in each of animal physiology, animal nutrition, and animal breeding.

Poultry Majors: A minimum of 24 units of course weight at the 300-level or in higher poultry science or animal science is required, including POULT 352, 459, and AN SC 463.

Electives: These may include additional courses offered by the Department; normally they should include courses from the following areas: agricultural economics, agricultural engineering, plant science, and soil science. In addition, consideration should be given to including a course in computing science.

33.1.8 Specialization in Dairy Science

The Faculty of Agriculture and Forestry offers a specialization in Dairy Science (Processing and Technology) through the Food Science Department. The specialization deals with principles of milk processing and dairy products technology, dairy microbiology, chemistry, and biochemistry. In meeting the Faculty requirements listed in §33.1.2, the following courses are required for the specialization in Dairy Science (Processing and Technology): GENET 197; CHEM 104/160 or 260; MICRB 193, BIOCH 301 (or PL SC 331 and AN SC 491); AN SC 472; FD SC 101, 302, 361, and 372; DAIRY 300, 393, 403, and 413.

33.1.9 Specialization in Entomology

The specialization in Entomology provides a comprehensive training in general and agricultural entomology. In addition to meeting the Faculty requirements listed in §33.1.2 and the requirements of the general program described in §33.1.4, students are required to complete ENT 207, 280, 292, 308, 317, 370 (or 371), 427, and three units of course weight in computing science.

33.1.10 Specialization in Grazing Management

The specialization provides an education in range, pasture, and wildlife management in the BSc Agriculture program. The program deals with the theory and practice of grazing animal-plant-soil relationships. It is intimately associated with the management of cultivated and native grazing lands used by wild and domestic herbivores.

The following courses must be taken in the program as part of the requirements of the BSc Agriculture degree (see §33.1.2):

AG EC 333
AN SC 311 (or 300), 350, 460
BOT 130, 240
FOR 110
PL SC 354, 356, 406, 471 or 472
SOILS 310, 420
INT D 365
Two of AN SC 461, 477, FOR 365, 410, INT D PL SC 407, SOILS 360, 425, ZOOL 467
One of AG EN 305, 308, ENT 207, 292

Program must include a minimum of 48 units course weight from the Faculty at the 300-level higher. Selection of the remaining units of co weight under Group D/E should be made in co tation with the Grazing Management adviser.

Note: Normally students will take at least BOT FOR 110, SOILS 310, AN SC 311 (or 300) and AN 350 during their second year.

33.1.11 Specialization in Plant Protection

This specialization provides an interdisciplinary s of the theory and practice of plant protection. To plete the requirements of the program, students take the following courses as part of the requireme the BSc Agriculture degree (§33.1.2):

One of AG EC 333, 384, FOREC 345 or INT D
AG EC 435 or LEG R 301
GENET 197 and three units of course weig ecology
BOT 240
CHEM 204 or 260
ENT 207, 308
MICRB 193
Six units of course weight in the Humanities; 266 recommended
PL SC 115, 350, 352, 355, 380, 470, 481, 482
SOILS 310, 430

Program must include a minimum of 48 uni course weight from at least six departments o Faculty at the 300-level or higher. Selection o remaining units of course weight under Group should be made in consultation with the Plant Prote adviser.

33.1.12 Specialization in Plant Science

The Plant Science major focuses on agricultu important plants, how they grow and develop, how are manipulated, managed, and protected, and how are utilized. The program consists of three element required courses in Plant Science and Botany emphasize the scientific disciplines underlying crop duction; 2. required courses taken within the fac outside of the Plant Science department, that provi basic foundation in agriculture, and; 3. electives, lected in consultation with an adviser, that permit student to pursue specific areas of interest, such horticulture, crop ecology, plant breeding, weed scie plant pathology, plant physiology and biochemistry plant biotechnology.

The following courses must be taken in the prog as part of the requirements of the BSc Agricul degree (see §33.1.2):

PL SC 115 (this course must be completed by end of the second year), 331, 352, 380, 465 plus three additional Plant Science cou
BOT 130, 219, 240
GENET 197
CHEM 260 or 204
SOILS 310
ENT 207
Three units of course weight in Food Science

The remaining courses are to be selected in con tation with the Plant Science adviser.

33.1.13 Specialization in Soil Science

The Department of Soil Science provides educa in Soil Science with programs arranged in the area soil productivity and land management, irrigation drainage, soil reclamation and conservation, soil cla fication and survey, and general soil science.

In meeting the Faculty requirements listed in §33 the following are the minimum courses required specialization in Soil Science:

SOILS 310; MICRB 193; three units of cou weight in geology; six units of course weight in chem try (in addition to the Faculty requirement) **or** six unit course weight in physics. These would normally taken in second year.

At least three units of course weight in **each** of following four areas is required: soil genesis and cla fication (SOILS 420); soil physics (SOILS 440);

ıy (SOILS 330 or 430); soil chemistry-mineralogy S 415 or 450). At least nine additional units of e weight (excluding project courses) offered by the rtment of Soil Science are also required. All of the oing would normally be taken during third and ı years.

nterested students are invited to consult with the rtment of Soil Science to obtain a list of approved al courses and further information before complet- eir program plans.

2 BSc Program in Food Science

A four-year program in Food Science is offered by aculty of Agriculture and Forestry. The discipline of science is the application of chemistry, microbiol- and engineering to food systems and technological sses used in food manufacturing and preservation. e, courses offered by the Department of Food nce focus on five distinct areas. These are food ce and commodities (FD SC 100, 101, 302, 400, 404, 405, 406, 455, 600, 601, and 602), food essing (FD SC 353, 354, and 554), food and indus- microbiology (FD SC 361, 363, 566, and 660), food istry (FD SC 371, 372, 472, 573, and 671), and engineering (FD SC 283, 586, 587, and 588).

The outline of the program is as follows:

Year: CHEM 104 and 160; MATH 113 and 115; FOR 104 (or three units of course weight in English); ENET 197; ECON 101; FD SC 101.

ond Year: MICRB 193; CHEM 212; PHYS 105 and 106; ECON 102; three units of course weight in Statistics (STAT 236 recommended); FD SC 283; six units of course weight of free electives.

Third Year: BIOCH 301; FD SC 302, 361, 371, 372, 353, and 354; six units of course weight of free electives.

Fourth Year: FD NU 454 (or AN SC 460); twelve units of course weight in electives from the list of FD NU 455, FD NU 510, POULT 459, and all other FD SC or DAIRY courses, 300-level or higher; fifteen units of course weight of free electives.

33.3 The Degree of BSc in Forestry

33.3.1 General Information

(1) The Faculty offers courses leading to the degree of Bachelor of Science in Forestry. The program consists of four years of university study with a yearly load of thirty units of course weight. In addition, a five-week spring field camp is required.

(2) A core program of 90 units of course weight, plus the spring field camp, is required of all students pursuing the BSc in Forestry. Most courses normally taken during the first two years are part of this core program. Some program diversity exists in the third and fourth years.

A spring field camp (FOR 301), lasting five weeks and occurring between the second and third years of the degree program, is required of all students. At this camp, technical training is provided in forest mensuration, protection and ecology; a range of management concepts is introduced; and an integrated forest land-use plan is prepared.

33.3.2 Required Courses in the Forestry Core Program

First year requirements:

AGFOR 104
BOT 199/130
CHEM 160 (or 104)
CMPUT 251
FOR 110/120
MATH 113 (or 114)
STAT 236

Note: These courses must be taken in first year. Students transferring from other programs or institutions will be required to complete all of the above courses in which they are deficient during their first year in attendance in the BSc Forestry program at the University of Alberta.

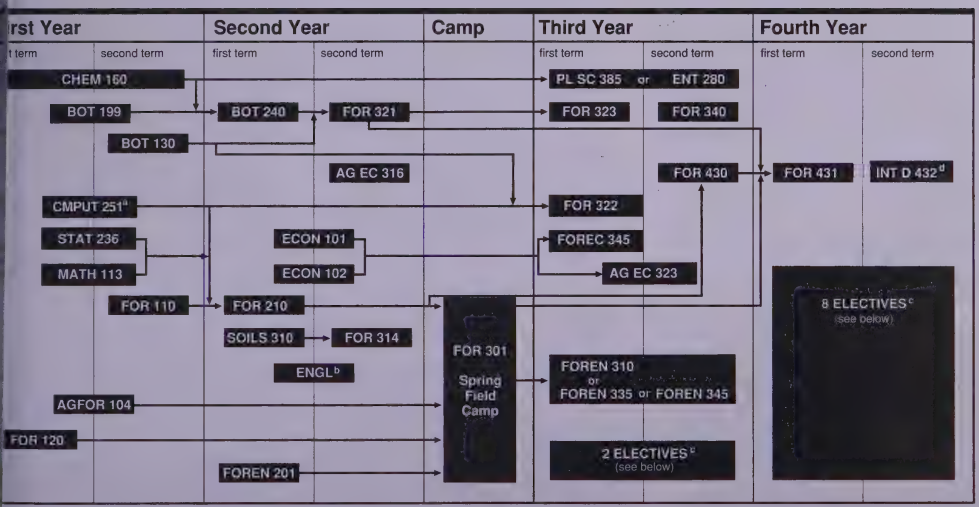
Second, third, and fourth years:

The following courses are required to complete the core requirements:

AG EC 316 or MATH 120; AG EC 323; BOT 240 ; ECON 101, 102; three units of course weight in English; FOREC 345; FOREN 201; one of FOREN 310, 335, 345; FOR 210, 301, 314, 321, 322, 323, 340, 430, 431; ENT 280 or PL SC 385; INT D 432; SOILS 310; 18 units of course weight of restricted electives to be selected in consultation with a program adviser; and 12 units of course weight of breadth electives six of which must be taken from outside the Faculty of Agriculture and Forestry (at least three of these must be taken from the Faculty of Arts but excluding courses from the Departments of Economics and Geography). For sequencing of these courses please refer to the flow chart.

Transfer students should consult with the Department of Forest Science concerning course selection.

Sc in Forestry



te: A course name straddling the line between first and second term indicates that it may be taken in either term.

a – It is recommended that this course be scheduled in second term.

b – Any three units of course weight in English at the University level may be taken.

c – The other courses are made up of 18 course weights in technical electives selected with advisor approval and 12 course weights in breadth electives of which at least six course weights must be taken outside the Faculty and at least three course weights must be from the Faculty of Arts except for Economics and Geography.

d – This course must be taken in one of the last two terms.

33.3.3 Modified First Year at the University of Calgary, the University of Lethbridge, and Elsewhere

A modified first year may be taken by students at the University of Calgary, the University of Lethbridge, affiliated Alberta junior colleges, and other colleges or universities outside the province of Alberta. The second, third, and fourth years of this program are offered only at the University of Alberta. Details of this modified first year program are available in the calendars of these institutions.

Students who present other first year programs for transfer to the University of Alberta may be admitted to the Forestry program but they should note that they may not receive credit for all their courses. Acceptance of transfer students cannot be guaranteed on the basis of any minimum academic achievement level.

33.4 BSc Program in Agricultural Business Management

This four-year program leading to the degree BSc in Agricultural Business Management, is offered jointly by the Faculty of Agriculture and Forestry and the Faculty of Business. Graduates of the program will have a broad base in the agricultural sciences and in business management concepts. The program provides the background so that graduates can adapt effectively to a career in agricultural business. The core of the degree ensures that students have training in accounting, finance, organizational theory, communication skills, marketing, production management, animal science, agricultural policy, agricultural engineering, plant science, and soil science. Most electives should be pursued in the Faculty of Agriculture and Forestry and in the Faculty of Business to allow the students to develop special knowledge in the managerial aspects of agricultural discipline(s) of their choosing. There is a "liberal" component of the program requiring students to take courses in the arts and humanities in faculties other than the Faculty of Agriculture and Forestry or the Faculty of Business. Course advising and counselling is rigorous to ensure that students are able to construct degree programs which are exacting as well as appropriate to their particular interests. Students in their first year will normally enrol in programs of study similar in course content to that of the first year BSc Agriculture program. Students will officially gain entry into the BSc Agricultural Business Management program in their second year. Entrance will be determined on the basis of aptitude and academic performance in first year course requirements. In general, admission standards will be similar to those used in the Faculty of Business (see §52.1.2).

33.4.1 General Information

(1) **Admission:** The program is designed so that students may apply for admission after completion of the first year of the BSc Agriculture program at the University of Alberta.

(2) **Promotion:** Promotion from year to year will be recommended by the Agricultural Business Management Program Committee to the Council of the Faculty of Agriculture and Forestry. In general, the requirements for promotion will be the same as those for the BSc Agriculture program.

(3) **Graduation:** The Agricultural Business Management Program Committee will recommend approval of the candidate for a degree to the Council of the Faculty of Agriculture and Forestry.

(4) **Scholarship:** Details of scholarships for which students in the program are eligible are listed under the Awards Section of the Calendar.

33.4.2 Course Requirements

The following courses are required by the program:

Group A:

Thirty units of course weight comprising the first year **Agricultural Business Management** program requirements. This set of courses is identical to the first year of the BSc in Agriculture program.

Group B:

Sixty six units of course weight to provide the needed background in the agricultural sciences and business management concepts. Of these, forty-eight are in: ACCTG 311, 322; AG EC 323, 333, 373, 384, 423; AG EC 315 or STAT 236; AG EC 316 or MATH 120; AG EC 435 or LEG R 301; CMPUT 157; ECON 281, 282; FIN 301; ORG T 301; R SOC 391 or ORG T 311. Three units of course weight are in AG EC 416, MGTSC 312, or R SOC 415. Nine units of course weight are from three of the four following departments: Agricultural Engineering (AG EN 300, 305, 308, or 310); Animal Science (AN SC 470, 472, or 477 or POULT 352); Plant Science (PL SC 350, 354, 355, or 356); Soil Science (SOILS 310). Three units of course weight are in senior production management and three units of course weight are in senior marketing management. In addition AGFOR 304 (field trip) and AGFOR 451 are required.

Group C:

Eighteen approved senior units of course weight in the Faculty of Agriculture and Forestry and in the Faculty of Business to provide enrichment in areas of individual student interest.

Group D:

Six additional units of course weight from among the social sciences (excluding economics), fine arts, or humanities taught outside the Faculty of Agriculture and Forestry and the Faculty of Business.

33.5 BSc Program in Agricultural Engineering

A four-year program in Agricultural Engineering is offered jointly by the Faculty of Agriculture and Forestry and the Faculty of Engineering.

The program is administered by a Joint Agricultural Engineering Curriculum Committee consisting of the Deans of the Faculty of Agriculture and Forestry and the Faculty of Engineering (or their representatives), the Agricultural Engineering Program Coordinator, the Chair, Department of Agricultural Engineering or another member of the Department if the Chair is also Coordinator, and two full-time academic members selected by and from the Faculty of Engineering. For administrative purposes students in the program will be registered in the Faculty of Agriculture and Forestry.

(1) **Admission:** The matriculation requirements are set out in §13.8 of this Calendar.

(2) **Promotion:** Promotion from year to year will be decided by the Joint Committee but in general the requirements for promotion will be the same as those of the Faculty of Engineering.

(3) **Graduation:** The Joint Committee will recommend approval of the candidate for the degree by the Councils of the Faculty of Agriculture and Forestry and the Faculty of Engineering.

(4) **Scholarship:** Details of scholarships for which students in the program are eligible are listed under the Awards sections of the Calendar.

All enquiries should be directed to the Dean of the Faculty of Agriculture and Forestry (telephone 492-4931) or the Chair of the Department of Agricultural Engineering (telephone 492-4251).

33.5.1 General Information

Agricultural Engineering applies engineering principles to the industry of agriculture. It involves engineering design of machinery, structures and environmental systems for plant and animal production, use of energy sources, processing systems for agricultural products and applications of engineering to the use of soil, water, and other natural resources.

The program of studies in Agricultural Engineering provides a background for careers in design, development, manufacture, testing, and research in industries related to agricultural production.

The core curriculum contains basic sciences and mathematics as well as introductory engineering and agricultural courses.

The selection of technical electives allows students to obtain additional depth in Agricultural Engineering and/or related areas. The AG EN 500 field trip will be offered in even-numbered years. The cost of this trip to the student will be approximately $100.00.

33.5.2 Required Courses

(1) CHEM 103, 105; ENCMP 200; ENGG 200, 201, 210, 230, 231, 500; ENGL 114; MATH 100, 101, 200, 201, 209; PHYS 131, 137; SOC 366; 6 units of humanities, social sciences and administrative studies.

(2) AG EN 301, 313, 413, 421, 430, 453, 454, 50[illegible] 510; CH E 324; CIV E 350, 351, 360, 480; E [illegible] 405; FD SC 588; MEC E 350, 413, 431; SOIL[illegible]

(3) Credit in an approved biological sciences c[illegible] credit in an approved animal science course; cr[illegible] an approved plant science course; credit in STA[illegible] or equivalent; credit in ENGG 420 or LEG R 30[illegible]

(4) Credit in a minimum of 9 units of approved tec[illegible] electives.

33.5.3 Elective Courses

Electives in the Agricultural Engineering Pr[illegible] may be chosen from courses offered by the Facul[illegible] Agriculture and Forestry, Arts, Business, Engineer[illegible] Science.

Typical technical elective courses are: AG EN[illegible] 456, 552; CIV E 320, 431, 441, 520, 590; CHEN[illegible] 263, 413; CH E 476, 490, 540, 546; CMPUT 340[illegible] 379, 479, 569; ENGG 420; FD SC 101, 353, 354[illegible] MATH 300; MEC E 361, 461, 462, 482, 555, 565; M[illegible] 351, 352; MICRB 193; SOILS 360, 425, 440, 470.

Students will consult with their faculty advise[illegible] assistance in choosing technical and humanities[illegible] tives. All programs must be approved by the Pr[illegible] Coordinator.

For course descriptions and a recommende[illegible] gram for the four years see §83.9.3 of this Calend[illegible]

33.6 Pre-Veterinary Medicin[illegible] Program

33.6.1 General Information

The Western College of Veterinary Medici[illegible] located at the University of Saskatchewan, Saska[illegible] Its program consists of two years of pre-Vete[illegible] Medicine and four years of Veterinary Medicine. A[illegible] residents desiring to take Veterinary Medicine [illegible] University of Saskatchewan may take two pre-V[illegible] nary years at the University of Alberta. There is a l[illegible] on Alberta students entering Veterinary Medicine [illegible] University of Saskatchewan and students with the[illegible] est standing in the work of the two pre-Veterinary [illegible] will receive preference. Since the Western Colle[illegible] Veterinary Medicine is a regional institution, it e[illegible] almost exclusively students from Western Canad[illegible] quotas for each province. For detailed informati[illegible] residency policy and admissions procedures, co[illegible] the Admissions Office, Western College of Vete[illegible] Medicine for a copy of the Admissions Brochure.

Facilities at the Ontario Veterinary College ar[illegible] ited, and because of the great interest in Vete[illegible] Medicine, few students from Alberta are likely [illegible] admitted to that institution, with or without adva[illegible] standing. In fact all students considering Vete[illegible] Medicine should know that there is such keen com[illegible] tion for admission to schools of Veterinary Medicin[illegible] a superior academic record is likely to be a require[illegible] to win one of the limited number of places avai[illegible] anywhere.

Students planning to enter pre-Veterinary Me[illegible] should note the entrance requirements describ[illegible] §13.3.2 of the University Calendar. Inquiries about[illegible] program should be addressed to the Dean, Facu[illegible] Agriculture and Forestry, University of Alberta.

33.6.2 Program of Courses

Two full years of university training are require[illegible] admission to the Western College of Veterinary [illegible] cine, during which credit must be secured for the nu[illegible] of courses customarily considered a standard load i[illegible] curriculum in which they are obtained. The progra[illegible] study must include:

- English (6 units of course weight)
- Chemistry (6 units of course weight)
- Organic Chemistry (3 units of course weight)
- Biochemistry (6 units of course weight)
- Physics (6 units of course weight)
- Mathematics or Statistics (6 units of course w[illegible]
- Biology (6 units of course weight)
- Genetics (3 units of course weight)
- Introductory Microbiology (3 units of course w[illegible]
- Electives (15 units of course weight)

In the Faculty of Agriculture and Forestry t[illegible] interpreted as follows:

First year requirements:

AGFOR 101
AGFOR 104
BOT 199

CHEM 104
CHEM 160
English - three units of course weight
MATH 113 (or 114)
ZOOL 120

Note: These courses must be taken in first year. dents transferring from other programs or institutions be required to complete all of the above courses in ch they are deficient during their first year in attend- e in the Pre-Veterinary Medicine program at the versity of Alberta.

cond year requirements:

BIOCH 301
GENET 197
ECON 101/102
MICRB 193
PHYS 105/106
Statistics - three units of course weight
Elective - three units of course weight

Note: Students may wish to extend the pre-veteri- y medicine requirements over more than two years. ls should be done in consultation with the pre-veterinary dicine program adviser.

6.3 Transfer to the Program in Agriculture

Students successfully completing the two years of -Veterinary Medicine may continue in Agriculture and n the BSc in Agriculture in most specializations by npleting two additional years of work with satisfactory nding. They are required to include all the require- nts of the BSc Agriculture program that they may e missed as well as meeting the requirements of d and fourth years.

3.7 Graduate Studies in Agriculture and Forestry

Programs leading to advanced degrees (MAg, MSc, d PhD) are offered by most departments of the culty. Course programs and thesis projects are ar- ged in consultation with faculty members.

Thesis projects are normally carried out at the iversity of Alberta. In certain instances, some gradu- e students may arrange to undertake a portion of their search at one of the Agriculture Canada Research ations.

General information on graduate studies at the iversity of Alberta with respect to admission, fees, d so forth, is given in the Faculty of Graduate Studies d Research section of this Calendar. Specific informa- n on the requirements and opportunities in a particular ld of study may be obtained from the appropriate partment of the Faculty of Agriculture and Forestry.

4 Details of Courses

4.1 General Information

Courses taught in the Faculty of Agriculture and restry are listed here in alphabetical order. Students e encouraged to examine course offerings from other aculties when selecting optional courses.

Each course is designated by its computer abbre- ation and a number.

The numbering system adopted by the Faculty of griculture and Forestry was designed to meet the niversity's Standardized Course Number System. Courses umbered 000 to 099 are considered Pre-university ourses. Courses numbered 100 to 199 are considered inior courses and have no university-level course pre- quisites. Courses numbered 200 to 299 are consid- red introductory courses in disciplines and may have 00-level (or higher) courses as prerequisites. Courses umbered 300 to 399 are considered intermediate courses nd may have 100-level (or higher) courses as prerequi- ites. Courses numbered 400 to 499 are considered enior courses and have 300-level (or higher) courses s prerequisites. These courses are normally taken by hird and fourth year students but may be taken by raduate students. Courses numbered 500 to 599 are onsidered graduate courses but may be taken by enior undergraduate students. These courses normally ontain a large component of independant or group ooperative study. Courses numbered 600 to 699 are ourses for graduate students only. Courses numbered 00 to 899 are special registration courses. Courses umbered 900 to 999 are reserved for Thesis projects.

Following the title of the course is the symbol standing for course weight ★, and a number indicating the weight of the course as used in computing grade-point averages. An ordinary full-session course is weighted 6. A single-term course is normally weighted 3. Some courses involving research may vary in weight according to the length and difficulty of the research project. Some courses are offered for credit only, and carry no weight.

The next three figures, enclosed in parentheses, indicate the hours of instruction required by the course in a week. The format is as follows: the first position indicates lecture hours; the second position indicates seminar hours (s), demonstration (d), clinic (c), or lecture-lab (L); and the third position indicates laboratory hours. The expression 3/2 means three hours of instruction every second week. The hours of instruction for a six weight course are the same in both terms unless otherwise indicated. If the course is a three weight course, the term in which it may be offered is mentioned before the hours of instruction.

The department responsible for registration may be found in square brackets at the end of a course description. Normally, in the Faculty of Agriculture and Forestry, courses will be credited to the discipline listed in the square brackets.

The appearance of a course description in the following list does not constitute any guarantee that the course will actually be offered in the forthcoming session. Information as to which courses will be offered, the names of the instructors, and all further details must be sought from the department concerned.

Physical Requirements for University Courses

The University has a commitment to the education of all academically qualified students and special services are frequently provided on campus to assist disabled students.

Nevertheless, some courses make certain unavoidable demands on students, with respect to the possession of a certain level of physical skill or ability, if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the Department concerned and the Disabled Student Services Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for all off-campus courses, instructors may be obliged to refuse registration in such courses.

34.2 Agricultural Economics

Department of Rural Economy

34.2.1 Agricultural Economics

INT D 302 Economics of Agriculture
★3 (either term, 3-0-0). The nature and scope of agricultural economics; economic aspects of agricultural production, marketing, finance, resource use, prices, and policy; relation of the agricultural sector to the economy as a whole; analysis of structural change, economic growth, and adjustment in agriculture. Prerequisite: ECON 101/102. (Offered jointly by the Departments of Economics and Rural Economy.) [Rural Economy]

INT D 303 Economics of World Agriculture
★3 (either term, 3-0-0). Economic issues in international agriculture including world food security, farming systems, agricultural trade and aid. The role of agriculture in development and means of improving the performance of agriculture world-wide. Foreign domestic agricultural policies and international trade protection measures, and potential reforms in relation to Canadian agricultural interests. Prerequisite: ECON 101/102. (Offered jointly by the Departments of Economics and Rural Economy). [Rural Economy]

AG EC 315 Data Analysis
★3 (first term, 3-0-2). Sources and methods of collecting data relating to the rural economy. Appraisal and use of economic indicators important to agriculture. Analysis of time series data and introduction to experimental design and hypothesis testing as applied to agriculture. Preparation and presentation of economic reports. Note: Not open to students with credit in STAT 141.

AG EC 316 Quantitative Methods
★3 (second term, 3-0-2). Introduction to linear programming analysis, input-output analysis, and related techniques. Emphasis is placed on the use of these techniques for performing economic analysis in agriculture and forestry. Prerequisite: Mathematics 30. Note: Not open to students with credit in MATH 120, 127.

AG EC 323 Management for Agricultural and Forest Business
★3 (first term, 3-0-0). Principles of management applied to farm and forest supply, service, and distribution businesses. Prerequisite: ECON 101/102.

AG EC 333 Introduction to Farm and Ranch Management
★3 (either term, 3-0-2). Application of economic principles to the organization and operation of a farm business. Introduction to farm records and business analysis; the management process and decision criteria for choice of enterprises, size of business, resource utilization, and timing of production; alternative methods of obtaining farming resources by purchase, leasing and credit. Prerequisite: ECON 101.

INT D 365 Natural Resource Economics
★3 (either term, 3-0-0). Economics of natural resources related to agriculture and forestry; conservation, population, resource scarcity, property and tenure institutions, economic rent and resource pricing, resource development and evaluation, environmental protection, public resource policy. Prerequisite: ECON 101; ECON 102 recommended. Note: Not open to students with credit in ECON 365. (Offered jointly by the Departments of Rural Economy and Forest Science.) [Rural Economy]

AG EC 373 Agricultural Policy
★3 (first term, 3-0-0). Economic policy aspects of the production, marketing, and income problems of farmers. Beliefs, values, institutions and participants in agriculture and their interaction in the development of economic policies for the industry. Prerequisite: ECON 101/102.

AG EC 381 Retail Marketing of Agricultural Products
★3 (second term, 3-0-1). Wholesale and retail food market structures and conduct, with emphasis on consumer motivation, retail pricing strategies, and operational techniques and problems. Prerequisite: ECON 101.

INT D 382 Theory and Practice of Cooperation
★3 (first term, 3-0-0). Economic and sociological principles of cooperation; the evaluation of cooperative organization; cooperative law and taxation; management and finance of cooperatives. [Rural Economy] Prerequisite: ECON 101 and R SOC 355.

AG EC 384 Marketing of Agricultural and Forest Products
★3 (either term, 3-0-1). Principles of marketing. Functions and institutions of markets. Market systems, price behavior, and futures markets for agricultural and forest products. Prerequisite: ECON 101/102.

AG EC 400 Special Topics
★3 (either term, 0-3s-0). Individual study. Study of a selected topic or problem requiring both written and oral reports. Prerequisite: Consent of the Department Chair.

AG EC 406 Economics of Grain
★3 (first term, 3-0-0). Production, consumption, and marketing of grains in Canada and the world. Economic analysis of grain trade and policy. Prerequisite: AG EC 333 and AG EC 384; PL SC 355 recommended.

AG EC 416 Statistical Analysis
★3 (first term, 3-0-2). Analysis of economic data relating to agricultural production, processing and marketing; collection of data, sampling methods, tests of hypotheses, analysis of variance, regression, and correlation; time series analysis; presentation of data. Prerequisite: AG EC 315.

AG EC 423 Management Techniques in Agriculture and Forestry
★3 (second term, 3-0-0). Application of decision-making techniques to the management of agricultural and forest businesses; computer assisted management game and selected case studies. Prerequisite: AG EC 323.

AG EC 433 Advanced Farm and Ranch Management
★3 (second term, 3-0-0). Application of concepts and tools of farm business management in farm planning and farm management extension. Manual and computerized methods of farm accounting, business analysis and planning; interpretation and use of information for decision making in organizing and operating a farm business to achieve goals; planning under risk and uncertainty; farm business arrangements and strategies for growth. Prerequisite: AG EC 333.

AG EC 434 Farm Finance and Appraisal
★3 (first term, 3-0-0). Principles of financial management. Capital requirements and use of capital in agriculture; credit sources and credit management; appraisal principles and applications to finance, tax management and estate planning in farm business; laws and legislation affecting financial aspects of farm operations. Prerequisite: AG EC 333.

AG EC 435 Agriculture and Forestry Law
★3 (either term, 3-0-0). Economic impact of laws and legislation on management of agriculture and forest resources, land tenure and user rights, farm wills and estates, legal implications of agriculture and forest

transactions, farm credit legislation and creditor rights, public administrative law affecting farm and forest operations. Prerequisite: One of AG EC 333, 384, FOREC 345, or INT D 365.

INT D 465 Natural Resource Utilization
★3 (either term, 3-0-0). Economics of utilizing and conserving land, water and energy resources in Agriculture and Forestry. Prerequisite: INT D 365. [Rural Economy]

AG EC 475 Agricultural and Rural Development
★3 (second term, 3-0-0). Characteristics of underdevelopment in rural economies. Current theories and practices to stimulate agricultural and rural economic growth. Agricultural technology, capital formation, market adjustments and integrated programs. Development planning, project identification, design and appraisal. Principles of coordination, budgeting, public involvement and evaluation: both Canadian and international applications are stressed. Prerequisite: One of INT D 303, INT D 356, or AG EC 373.

AG EC 484 Agricultural Marketing Economics
★3 (second term, 3-0-0). Structure and performance of agricultural markets. Applied agricultural market and price issues. Prerequisite: AG EC 384.

AG EC 485 Agricultural Prices and Trade
★3 (second term, 3-0-0). Principles and factors affecting international trade in agricultural products. Prerequisite: AG EC 384. Offered in alternate years.

INT D 486 Livestock and Meat Marketing
★3 (second term, 3-0-1). Marketing problems, potentials and principles studied through in-depth analysis of the red meat industry. Prerequisite: AG EC 384. Note: Limited enrollment, preference given to fourth year agricultural students. (Offered jointly by the Departments of Rural Economy and Animal Science.) [Rural Economy]

AG EC 487 Agricultural Commodity Futures Markets
★3 (either term, 3-0-0). Price determination, futures prices, hedging strategies, and price behaviour over time, with respect to agricultural commodities. Emphasis will be placed on the role of the commodity exchange as a price discovery mechanism and its use in agricultural production and marketing decisions. Prerequisite: AG EC 384. Offered in alternate years.

AG EC 500 Research Projects in Agricultural Economics
★3 (either term, 0-3s-0). Individual study. Investigations of a special problem involving field or library study and preparation of written reports. Note: May be repeated for credit one time. Prerequisite: Consent of the Department Chair.

AG EC 502 Theoretical Applications to Agricultural Economics
★3 (first term, 3-0-0). Elements of production, marketing, and welfare theories, and cost theory extensions, with applications to agricultural problems. Prerequisite: Consent of the Department Chair.

AG EC 513 Agricultural Econometrics
★3 (either term, 3-0-3). Econometric theory, multiple linear regression analysis, and interpretation, simultaneous equation estimation, applications of econometric techniques to agricultural economic problems. Prerequisite: AG EC 416.

AG EC 514 Quantitative Techniques
★3 (either term, 3-0-3). Applications of econometric extensions, operations research, mathematical programming and input-output analysis of problems in agricultural economics. Prerequisite: Consent of instructor; AG EC 316 and AG EN 420 recommended.

AG EC 515 Research Methodology
★3 (first term, 3-0-0). Problem identification and analysis, inductive procedures, formulating and testing hypotheses, causal analysis, rules of inference, role of theory, designing research projects. Prerequisite: Consent of instructor; AG EC 416 recommended.

AG EC 533 Production Economics
★3 (second term, 3-0-3). Static and dynamic firm theory, production principles applied to resource use, resource and product combination, cost structure, uncertainty and expectations. Prerequisite: Consent of instructor; AG EC 502 and 416 recommended.

AG EC 565 Natural Resource Economics
★3 (either term, 3-0-0). Availability, utilization, and quality of natural resources; criteria for resource development and conservation; public policy problems and analysis. Prerequisite: Consent of instructor; AG EC 502 and 416 recommended.

AG EC 573 Agricultural Economics Policy
★3 (first term, 3-0-0). Goals and instruments of agricultural policy, model constructions with decision and control criteria; national, regional, and provincial agricultural application. Prerequisite: Consent of instructor; AG EC 502 and 416 recommended.

AG EC 575 Agriculture in Developing Countries
★3 (either term, 3-0-0). The role of agriculture in the economic growth of developing countries; influence of international trade and commodity agreements on economic development. Prerequisite: Consent of instructor; AG EC 475 and 502 recommended.

AG EC 584 Marketing Economics
★3 (second term, 3-0-0). Market competition, price and location theories; market structure analysis; and market performance criteria. Prerequisite: Consent of instructor; AG EC 502 and 416 recommended.

AG EC 585 Agricultural Trade and Price Analysis
★3 (either term, 3-0-0). Concepts underlying agricultural specialization and trade; spatial and behavioural price analyses; impact of trade controls and commodity agreements. Prerequisite: Consent of instructor; AG EC 485 recommended.

Note: For a list of forest economics courses offered see §34.8.

Note: For a list of rural sociology courses offered see §34.14.

34.3 Agricultural Engineering

The following table lists renumbered courses effective 1991-92:

Old	New
AG EN 411	AG EN 311

AG EN 300 Introduction to Farm Mechanization Systems
★3 (first term, 3-0-0). Systems concepts applied to the selection of equipment components of agricultural production systems. Topics include machinery management (sizing, costing and replacement), farmstead planning and irrigation.

AG EN 301 Environmnetal Control of Agricultural Buildings
★3 (first term, 3-0-3). Environmental requirements as determined by physiological principles. Environmental control. Prerequisite: CH E 324.

AG EN 305 Farm Power and Machinery
★3 (second term, 3-1s-0). Introduction to farm power and machinery with emphasis on general characteristics of machines and processes. Note: Designed for students wishing general instruction in this area. Not open to students with credit in AG EN 303.

AG EN 308 Agricultural Water Management
★3 (first term, 3-0-0). Elementary surveying and hydrology, erosion control, water supply development, water conservation practices. Note: Not open to students with credit in AG EN 313.

AG EN 310 Agricultural Buildings
★3 (second term, 3-0-3). Topics include farmstead planning, animal well being, control of acceptable environments, and manure management. Note: Designed for students wishing general instruction in this area.

AG EN 311 Irrigation Principles and Practices
★3 (first term, 3-0-0). Soil-water-plant relationships; water requirements; efficiency of water use; irrigation scheduling; water quality and salinity; water application methods; drainage of irrigated land. Prerequisite: SOILS 310. (Offered jointly with Department of Soil Science.)

AG EN 313 Soil and Water Engineering
★3 (first term, 3-0-2). Basic principles of agricultural hydrology, water resource development, irrigation and drainage. Note: Not open to students with credit in AG EN 308.

AG EN 413 Irrigation and Drainage Engineering
★3 (second term, 3-0-3). Irrigation and drainage principles; planning and design of irrigation and drainage systems. Prerequisite: MEC E 431 or CIV E 430.

AG EN 420 Mathematical Programming in Agriculture and Forestry
★3 (first term, 3-0-3). Mathematical programming methods applied to the analysis of production systems in agriculture and forestry. Prerequisite: AG EC 316 or MATH 120 or MATH 200.

AG EN 421 Simulation Methods in Agricultural Engineering
★3 (second term, 3-0-3). Continuous and discrete simulation methods applied to the study of agricultural processes. Prerequisite: Introductory courses in Computing Science and Calculus. Not open to students with credit in FOREN 421.

AG EN 430 Structural Design of Agricultural Buildings
★3 (second term, 3-0-3). Principles of structural design as related to the use of timber, steel and concrete in agricultural buildings. Prerequisite: CIV E 360.

AG EN 453 Power Units
★3 (first term, 3-0-3). Energy conversion, power tra mission, soil vehicle mechanics, hydraulic systems, tra performance and evaluation, tractor dynamics. Prere site: MEC E 431 or CIV E 430.

AG EN 454 Agricultural Machinery
★3 (second term, 3-0-3). The course uses the we theory and the Mohr-Coulomb failure criteria as a b for a simple tillage theory. Various tillage tools examined as well as implement and tractor cha mechanics. An introduction to harvesting processe made. Particle dynamics and mechanics of raking cutting are developed. Harvesting systems are no Prerequisite: MEC E 350, CIV E 480.

AG EN 456 Post-Harvest Technology
★3 (first term, 3-0-3). This course is an analysis forage conditioning, fractionation, wafering, preservat and ensiling; grain and forage dehydration, feeding transport equipment, storage regimes, process cont and grain cleaning, sorting and milling. Prerequis MATH 113.

AG EN 500 Agricultural Engineering Field Trip
★0 An extended trip to visit agricultural engineer operations is required of all agricultural engineer students. Normally conducted for third and fourth-y students in September of even numbered years prio start of classes.

AG EN 503 Instrumentation in Agricultural Engineering
★3 (second term, 3-0-3). A study of the primary sens elements used in agricultural engineering, their princip of operation and application. An introduction to sig conditioning and the use of digital techniques in ins mentation. Prerequisite: E E 405.

AG EN 510 Agricultural Engineering Project
★3 (either term, 1-0-4). Each final year student in BSc (Agr Eng) program works independently on a proj approved by the Coordinator. The project must be eith a literature review or an engineering design problem an experimental research project or a combination any of these. Both a brief outline and a formal rep must be submitted by the due dates.

AG EN 552 Advanced Irrigation and Drainage
★3 (either term, 3-1s-0). Studies of selected topics special problems in irrigation and drainage. Prerequis AG EN 411 or AG EN 413.

Note: For a list of forest engineering courses offe see §34.9.

34.4 Agriculture and Forestry

The following table lists renumbered courses effecti 1991-92:

Old	New
AGFOR 201	AGFOR 101
AGFOR 204	AGFOR 104
AGFOR 404	AGFOR 304

AGFOR 101 Introduction to Agriculture
★3 (first term, 3-0-0). Elementary principles of t agriculture and food system. The ecosystem and histori evolution of human intervention. The social, biologi and physical sciences in agriculture. Includes seve Saturday field trips and associated assignments. Dev opment of professional qualities in the student is stresse

AGFOR 104 Practice in Communication
★3 (either term, 3-0-0). Fundamentals of communic tion. Effectiveness of various methods of communicatin Practice in effective speaking, writing, group discussi and committee work. Application of audio visual techniqu to extension material.

AGFOR 304 Field Trip
★0 (first term,). Tour of Alberta agricultural enterpris arranged with the assistance of the Alberta Institute Agrologists. Normally conducted in September prior start of classes. Required of all agricultural students.

AGFOR 320 Tropical Food Systems
★3 (second term, 3-0-0). Study of tropical food syster in developing countries — farm practices, storag processing, transportation, marketing and home utiliz tion. Importance of the effects of physical and soc environment on such food systems. First year studen not normally allowed.

AGFOR 451 Practical and Professional Agriculture
★0 (either term, 2-0-0).

4.5 Animal Science

4.5.1 Animal Science

N SC 210 Equine Physiology and Nutrition
3 (first term, 3-0-0). Application of the principles of gestive and metabolic physiology. Nutrient requirements the horse; sources of energy and nutrients; feed rmulation. Includes two optional one-day field trips.

N SC 300 Principles of Animal Physiology
3 (first term, 3-0-3). Fundamental principles of initia- on and regulation of animal function. Prerequisite: OOL 120.

N SC 311 Applied Physiology of Domestic nimals
3 (second term, 3-0-3). Physiological mechanisms of gestion, metabolism, growth, reproduction, and lacta- on in farm animals. Prerequisite: ZOOL 120. In addition, single-term course in introductory biochemistry is ecommended.

N SC 340 Farm Animal Health and Disease revention
3 (first term, 3-0-0). General principles of disease and isease prevention. Prevention of major reproductive, spiratory and digestive diseases in farm animals. romotion of health and prevention of disease through roper management. Prerequisite: Three units of course eight from among the biological sciences.

N SC 350 Wildlife Productivity and Management
3 (first term, 3-0-3). Introduction to principles of animal unctions related to production and management of the orld's hoofed mammals. Analyses of relationships be- ween productivity, habitat and land resource management. ield trips. Prerequisite: Three units of course weight rom among the biological sciences.

AN SC 372 Animal Agriculture
★3 (first term, 3-0-3). History and development of the dairy, beef, swine and sheep industries and potential of non-domestic species. Application of management prin- ciples to efficient production. Laboratory: Practical as- signments in animal production.

AN SC 380 Livestock Growth and Meat Production
★3 (first term, 3-2s-0). Concepts of growth and develop- ment applied to meat production from farm livestock. Form and function of bone, muscle and fat in the live animal. Livestock appraisal and carcass grading. Pre- requisite: ZOOL 120.

AN SC 460 Fundamentals of Nutrition
★3 (first term, 3-0-0). The nutrients, their character and metabolism. Reading assignments in relevant literature. Prerequisite: Third year standing or higher.

AN SC 461 Ruminant Nutrition
★3 (second term, 3-0-3). Application of energy metabo- lism, nutrient requirements, feed processing and feeding practices. Laboratory exercises in feed formulation. Pre- requisite: AN SC 460.

AN SC 463 Applied Monogastric Nutrition
★3 (second term, 3-0-3). Energy and nutrients in the nutrition of poultry, swine and other monogastrics. Nutrient requirements and feeding practices. Laboratory exercises in feed formulation. Prerequisite: AN SC 460.

AN SC 470 Swine Production and Management
★3 (first term, 3-0-3). Examination of the structure of the Canadian swine industry. Evaluation of breeding, feed- ing and management practices that optimize swine production efficiency and profitability. Prerequisite: Third year standing or higher.

AN SC 472 Dairy Production and Technology
★3 (first term, 3-0-3). Structure of the dairy industry. Principles, practices and problems associated with the production of quality milk. Management, feeding and housing systems to optimize the efficiency of milk pro- duction. Dairy products and processing. Prerequisite: Third year standing or higher.

AN SC 477 Beef Cattle Production and Management
★3 (second term, 3-0-3). Current practices, changes and progress in beef cattle production. Prerequisite: Third year standing or higher.

AN SC 484 Animal Population Genetics
★3 (first term, 1.5-2s-0). A lecture, library and discussion course dealing with concepts in evolutionary and popu- lation genetics. Prerequisite: GENET 197 and third year standing or higher.

AN SC 485 Animal Improvement
★3 (second term, 3-0-2). Application of genetic principles to the improvement of livestock and poultry. Prerequisite: GENET 197 and third year standing or higher.

AN SC 491 Animal Biochemistry
★3 (second term, 3-0-3). Prerequisite: One single-term course in introductory biochemistry.

AN SC 493 Physiological Chemistry of Muscle and Meat
★3 (second term, 3-0-0). Structure, composition, devel- opment and metabolic role of muscle. Effects of hormones, nutrition, stress, slaughter and post-mortem metabolism. Prerequisite: One single-term course in introductory biochemistry.

AN SC 501 Research Project
★3 (either term, 0-3s-0). Individual study. A single-term course; may be offered over the full session.

AN SC 510 Ruminant Physiology
★3 (first term, 3-0-3). Selected topics in metabolic endocrinology and environmental physiology of ruminants. Offered in odd-numbered years. Prerequisite: Single- term courses in biochemistry and physiology.

AN SC 551 Grazing System Dynamics
★3 (second term, 3-0-3). Application of the techniques of systems analysis and computer simulation in research and management of livestock and wildlife production systems. Prerequisite: Consent of Instructor. Offered in odd numbered years.

AN SC 580 Biometrical Techniques in Agricultural Science I
★3 (either term, 3-0-3). Application of biometrical tech- niques to problems in agricultural science. Prerequisite: Fourth year standing or higher. Three units of course weight in introductory statistics recommended.

AN SC 583 Biometrical Techniques in Agricultural Science II
★3 (second term, 3-0-3). A continuation of AN SC 580 in the application of biometrical techniques to problems in agricultural science. Prerequisite: AN SC 580 recom- mended.

AN SC 587 Biometrical Techniques in Quantitative Animal Genetics
★3 (second term, 3-0-3). Prerequisite: AN SC 580 rec- ommended. Offered in even-numbered years.

34.5.2 Poultry Science

POULT 352 Principles and Practices of Poultry Production
★3 (second term, 3-0-3). An introduction to modern poultry production based on an understanding of avian anatomy, physiology, behaviour, breeding and nutrition. Prerequisite: Second year standing or higher.

POULT 459 Poultry Products and Technology
★3 (first term, 3-0-3). A study of the structure, chemical composition, nutritive value and preservation of eggs and egg products; factors affecting growth, carcass composition and quality of poultry meat; processing and marketing regulations. Prerequisite: Third year standing or higher.

34.5.3 Reserve List

The Department is unable to offer the following courses on a regular basis. Students should consult the Department for further information.

AN SC 464 Nutritional Experimentation
★3 (first term, 2-0-3). Design, completion and analysis of nutrition experiments involving several species of animals. Familiarization with laboratory techniques, sta- tistical analyses, literature review and citation and inter- pretation of experimental data.

34.6 Entomology

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
ENT 220	ENT 120	ENT 417	ENT 317
ENT 307	ENT 207	ENT 419	ENT 319
ENT 380	ENT 280	ENT 421	ENT 321
ENT 392	ENT 292	ENT 470	ENT 370
ENT 400	ENT 300	ENT 471	ENT 371
ENT 401	ENT 301	ENT 560	ENT 460
ENT 408	ENT 308		

ENT 120 Introduction to Insect Biology
★3 (either term, 3-0-3). An introduction to the structure, function, ecology, and systematics of insects with emphasis on the regulation of their metabolism, locomotion, repro- duction and development on the evolution of the orders and on the interactions and relationships of insects with other organisms including man. Prerequisite: Biology 30. Restriction: Not open to students with credit in any Entomology course.

ENT 207 Agricultural Entomology
★3 (either term, 3-0-3). Introduction to insects and related arthropods emphasizing those aspects of their structure and life history responsible for some of them becoming pests and indicating those aspects towards which control measures can be directed. Principles of integrated control. Prerequisite: one of BIOL 100, GENET 197, ZOOL 120 or BOT 199.

ENT 280 Forest Entomology
★3 (second term, 3-0-3). Characteristics of major North American forest insects. Roles of insects in forest eco- systems. Insects destructive to wood and wood products. Principles of control. Prerequisite: Biology 30 and first year Chemistry (CHEM 160 recommended). Not open to first year students.

ENT 292 Medical and Veterinary Entomology
★3 (either term, 3-0-3). An introduction to the arthro- pods and an account of their influences on the health of man and other animals. Prerequisite: Six units of course weight in Biology, Entomology or Zoology. Not open to first year students.

ENT 300 Project in Basic Entomology
★6 (0-1s-6). Individual study. Provides students with an opportunity to pursue an area of interest in detail. This is accomplished through guided reading, discussions with a faculty member and usually conducting a limited research project. Students must have the agreement of at least one faculty member who will act as supervisor for the course. As the project may require summer collecting or field work, students are strongly encouraged to find a faculty member who agrees to supervise their work, at least six months prior to enrolling in the course. Prerequisite: Any three units of course weight in Entomology at the 200-level or higher.

ENT 301 Project in Basic Entomology
★3 (either term, 0-1s-6). Individual study. Provides students with the opportunity to investigate through guided reading and discussion with a faculty member of their choice, the literature on one or more topics in basic entomology. According to circumstances and inclination, limited experimental work might be undertaken. Prereq- uisite: Any three units of course weight in Entomology at the 200-level or higher.

ENT 308 Principles of Insect Pest Management
★3 (first term, 3-0-3). Application of ecological principles and pest management tactics in development of integrated control strategies. Biological characteristics of pests and use of population models are emphasized. Economic considerations in pest management. Term paper required. Prerequisite: Any three units of course weight in Entomology at the 200-level or higher, an introductory course in ecology, a course in Computing Science, and a course in Statistics.

ENT 317 Comparative Morphology
★3 (first term, 3-0-3). Comparative morphology of the major orders of insects and the evolution of some of their structures. Prerequisite: ZOOL 252 and 253.

ENT 319 Insect Development
★3 (second term, 3-0-3). Reproduction, embryonic and postembryonic development in insects. Prerequisite: BIOL 202 or ENT 317.

ENT 321 Insect Function
★3 (second term, 3-1s-3). Life processes at the molecular, cellular, and organ levels, emphasizing those character- istics of insects and their relatives. Prerequisite: CHEM 160 and six units of course weight in Entomology and/or Zoology at the 200-level or higher.

ENT 370 Project in Applied Entomology
★6 (0-1s-6). Individual study. Provides student with an opportunity to pursue an area of interest in detail. This is accomplished through guided reading, discussions with a faculty member and usually conducting a limited research project. Students must have the agreement of at least one faculty member who will act as supervisor for the course. As the project may require summer collecting or field work, students are strongly encouraged to find a faculty member who agrees to supervise their work, at least six months prior to enrolling in the course. Prerequisite: Three units of course weight in Entomology at the 200-level or higher.

ENT 371 Project in Applied Entomology
★3 (either term, 0-1s-6). Individual study. Provides students with the opportunity to investigate through guided reading and discussion with a faculty member of their choice, the literature on one or more topics in applied entomology. According to circumstances and inclinations, limited experimental work might be undertaken. Prerequisite: Three units of course weight in Entomology at the 200-level or higher.

ENT 427 Insect Taxonomy
★3 (second term, 2-0-6). The higher taxa of insects and their relationships. Practice in identification. Prerequisite: ENT 317.

ENT 460 Insect Ecology
★3 (first term, 2-0-4). Relationships of insects to their environment. Community interactions. Laboratory will consist of field trips. Prerequisite: ZOOL 331 or ENT 308 and three units of course weight of animal ecology.

ENT 527 Insect Taxonomy
★3 (second term, 3-0-3). Literature of insect taxonomy. Principles and procedures. Speciation, phylogeny and zoogeography. Preparation of taxonomic papers. Prerequisite: Consent of instructor; ENT 427 recommended.

ENT 561 Advanced Insect Ecology
★3 (second term, 2-0-4). Behavioral aspects of insect ecology. Responses of insects to the biological and physical environment. Circadian activity rhythms. Prerequisite: ENT 460.

34.7 Food Science

34.7.1 Dairy Science

The following table lists renumbered courses effective 1991-92:

Old	New
DAIRY 400	DAIRY 300

DAIRY 300 Fundamentals of Dairy Science
★3 (first term, 3-2s-0). Physiology of lactation. Biosynthesis and properties of milk components. Physical, chemical, microbiological, technological and nutritional aspects of milk quality. Prerequisite: Six units of course weight in biochemistry.

DAIRY 393 Dairy Product Analysis
★3 (second term, 3-0-3). Biochemical, chemical, and microbiological analyses of milk and dairy products. Prerequisite: DAIRY 300, FD SC 361 and 372.

DAIRY 403 Processing of Milk Products
★3 (first term, 3-1s-0). Principles and processes for fluid milk and fluid milk products, including cream, evaporated, dried and concentrated milk. Pasteurization, homogenization, membrane separation, UHT processes. Prerequisite: FD SC 361 and 372.

DAIRY 413 Processing of Dairy Products
★3 (second term, 3-0-3). Principles of manufacturing cheese, ice cream, fermented milk, butter. Prerequisite: DAIRY 403.

34.7.2 Food Science

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
FD SC 200	FD SC 100	FD SC 461	FD SC 361
FD SC 351	FD SC 101	FD SC 463	FD SC 363
FD SC 383	FD SC 283	FD SC 471	FD SC 372
FD SC 402	FD SC 302	FD SC 502	FD SC 402
FD SC 453	FD SC 353	FD SC 504	FD SC 404
FD SC 454	FD SC 354		

FD SC 100 Introduction to Food Processing
★3 (first term, 3-0-0). An introduction to historical, philosophical, scientific, and industrial aspects of food manufacturing and preservation. World food needs, consumer controversies, and current food issues will be discussed. Given concurrently with FD SC 101; not open to students with credit in FD SC 101. Not open to students in the BSc (Food Science) program.

FD SC 101 Introduction to Food Processing
★3 (first term, 3-0-3). An introduction to historical, philosophical, scientific and industrial aspects of food manufacturing and preservation. World food needs, consumer controversies and current food issues will be discussed. Laboratories include exercises, field trips and seminar presentations. Given concurrently with FD SC 100: not open to students with credit in FD SC 100. Required course for students in the BSc (Food Science) program.

FD SC 283 Introduction to Food Engineering
★3 (second term, 3-0-3). Dimension and units. Basic mathematical concepts and their use in food processes. Thermodynamics in food systems. Prerequisite: MATH 113 or 114.

FD SC 302 Quality Control
★3 (second term, 3-0-3). Statistical methods in quality control, sampling plans, objective and subjective measurements of food quality attributes. Formerly called FD SC 402. Prerequisite: Three units of course weight in introductory statistics (STAT 236 recommended).

FD SC 353 Unit Operations in Food Processing I
★3 (first term, 3-0-3). Processes used in food manufacturing. Size reduction, mixing, emulsification, separation, extraction, distillation, sedimentation, centrifugation, crystallization and filtration. Prerequisite: FD SC 283.

FD SC 354 Unit Operations in Food Processing II
★3 (second term, 3-0-3). Processes used in food preservation. Dehydration, refrigeration and freezing, sterilization and canning, irradiation. Effect of processing on food properties. Prerequisite: FD SC 283.

FD SC 361 Food Microbiology
★3 (first term, 3-0-3). Environmental factors affecting the growth, acitivity, and destruction of microorganisms in food. Sanitizing and disinfection. Food-borne infections and intoxications. Open only to students registered in the Faculties of Agriculture and Forestry or Home Economics; or students registered in Microbiology Specilization and Honors programs; or Medical Laboratory Science. Given concurrently with FD SC 363, not open to students with credit in FD SC 363. Prerequisite: MICRB 193.

FD SC 363 Food Microbiology
★3 (first term, 3-0-0). Environmental factors affecting the growth, activity, and destruction of microorganisms in food. Sanitizing and disinfection. Food-borne infections and intoxications. Given concurrently with FD SC 361, not open to students with credit in FD SC 361. Prerequisite: MICRB 193.

FD SC 371 Food Analysis
★3 (first term, 1-0-4). An introduction to standard physical and chemical methods for the analysis of agricultural commodities and foods. Usually taken concurrently with FD SC 372. Prerequisite: Six units of course weight of credit in university level chemistry.

FD SC 372 Food Chemistry I
★3 (first term, 3-1s-0). Chemistry and biochemistry of food constituents. Usually taken concurrently with FD SC 371. Prerequisite: CHEM 100 or 104; and 160 or 260.

FD SC 400 Undergraduate Reading Project
★3 (either term, 0-3s-0). Individual study. Critical reviews of selected literature under the direction of a staff member. Note: For third and fourth year students only. Students must obtain approval from Department before registration.

FD SC 402 Brewing and Enology
★3 (second term, 3-1s-0). Biological, biochemical, chemical and technical aspects of malting, brewing, winemaking and allied industries. Offered in alternate years. Formerly called FD SC 502. Prerequisite: BIOCH 301 and MICRB 193.

FD SC 404 Meat and Meat Products
★3 (second term, 3-0-3/2). Biological, biochemical, chemical and technological aspects of the processing of meat and meat products. Offered in alternate years. Prerequisite: MICRB 101 or 193 and BIOCH 301.

FD SC 405 Processing and Storage of Fruits and Vegetables
★3 (first term, 3-0-3/2). Biological, biochemical, chemical and technological aspects of the processing of fruits and vegetables. Offered in alternate years. Prerequisite: Three units of course weight in introductory biochemistry.

FD SC 406 Processing and Storage of Cereals and Oilseeds
★3 (first term, 3-0-3/2). Biological, biochemical, chemical and technological aspects of the processing of cereals and oilseeds. Offered in alternate years. Prerequisite: Three units of course weight in introductory biochemistry.

FD SC 455 Special Project/Research
★6 (0-1s-0;0-1s-10). Directed laboratory studies under supervision of staff members. Note: Primarily for senior specialization students. Prerequisite: Consent of the Department.

FD SC 472 Food Chemistry II
★3 (second term, 3-0-0). A continuation of FD SC 372. Prerequisite: FD SC 372.

FD SC 554 Food Processing Project
★3 (either term, 1-0-5). Laboratory and pilot plant studies of selected food preservation techniques. Evaluation of effects of processing on food characteristics. Prerequisite: Consent of instructor.

FD SC 573 Food Analysis
★3 (second term, 3-0-3). Classical and modern methods for the chemical analysis of foods and food ingredients. Prerequisite: Consent of instructor.

FD SC 587 Food Engineering Laboratory
★3 (either term, 1-0-3). Experiments in Food Engineering. Prerequisite: Consent of instructor.

FD SC 588 Heat and Mass Transfer in Food Engineering
★3 (first term, 3-1s-0). Basic heat and mass transfer theories in solid and liquid foods. Application to selected unit operations. Prerequisite: Consent of instructor.

34.7.3 Reserve List

The Department is unable to offer the following courses on a regular basis. Students should consult with the Department for further information.

FD SC 566 Advanced Food Microbiology
★3 (second term, 1-0-4). Advanced techniques and recent developments in food microbiology. Emphasis on epidemiology, etiology and control of food and water-borne illness. Prerequisite: FD SC 361.

FD SC 586 Food Process Evaluation
★3 (first term, 3-3s-0). In-depth study of optimization and cost analysis of selected food processes. Prerequisite: Consent of instructor.

34.8 Forest Economics

Department of Rural Economy

FOREC 345 Economics of Forestry
★3 (first term, 3-0-0). Economic aspects of forest production, marketing, finance, and policy. Prerequisite: ECON 101/102.

INT D 365 Natural Resource Economics
★3 (either term, 3-0-0). Economics of natural resources related to agriculture and forestry; conservation, population, resource scarcity, property and tenure institutions, economic rent and resource pricing, resource development and evaluation, environmental protection, public resource policy. Prerequisite: ECON 101; ECON 102 recommended. Note: Not open to students with credit in ECON 365. (Offered jointly by the Departments of Rural Economy and Forest Science.) [Rural Economy]

INT D 432 Forest Administration and Policy
★3 (second term, 2-1s-0). Analysis of how forest resource policies are developed, and criteria for evaluation. Historical review to illustrate how policies and programs evolved as they have. Review of current policy issues. Outline of principles of organization for resource administration. Lectures, student seminars and assigned reading. Prerequisite: Open only to students in final year of their programs. (Offered jointly by the Departments of Forest Science and Rural Economy.) [Forest Science]

FOREC 445 Forest Production Economics
★3 (second term, 3-0-0). Production principles applied to the use of resources in forestry. Prerequisite: Consent of instructor; FOREC 345 recommended.

INT D 465 Natural Resource Utilization
★3 (either term, 3-0-0). Economics of utilizing and conserving land, water and energy resources in Agriculture and Forestry. Prerequisite: INT D 365. [Rural Economy]

FOREC 545 Economics of Timber Utilization
★3 (second term, 3-0-0). Concerns introduction of wood processing industries into areas of predominantly old growth stock; optimum depletion rates and sustention of yield, development of infrastructure; siting mills; transportation and the pattern of development of wood processing industries; the role of the forest industries in regional development. Prerequisite: Consent of instructor; FOREC 445 recommended. [Rural Economy]

34.9 Forest Engineering

Departments of Agricultural Engineering and Forest Science

FOREN 201 Engineering Principles Applied to Forestry I
★3 (first term, 3-0-3). Surveying, photogrammetry and photo interpretation for forestry and forest operation applications. (Offered jointly by the Departments of Agricultural Engineering and Forest Science.) [Forest Science]

FOREN 310 Wood Science and Technology
★3 (first term, 3-0-3). The anatomy and identification of North American woods; biological, chemical and physical properties of wood and its components; growth, natural and processing defects; lumber grading. [Agricultural Engineering]

FOREN 335 General Forest Harvesting and Transportation
★3 (first term, 3-0-0). Harvesting and transportation methods and techniques as applied to industrial logging operations. This is a general course for forestry students requiring a basic knowledge of methods and equipment used in modern forest harvesting and transportation operations. (Offered jointly by the Departments of Agricultural Engineering and Forest Science.) [Forest Science]

REN 345 Wood Utilization
(second term, 3-0-0). Wood utilization including mills, plywood plants, chip and particle board and pulp and paper. A general survey course for forestry students requiring a basic knowledge of the utilization of forest products. [Agricultural Engineering]

REN 400 Topics in Wood Utilization
(either term, 0-3s-0). Individual study. Directed study of wood utilization relating to solid wood products manufacturing and/or pulp and paper technology. Prerequisite: FOREN 310 or FOREN 345. [Agricultural Engineering]

REN 421 Simulation Methods in Forest Engineering
(second term, 3-0-3). Continuous and discrete simulation methods applied to the study of processes in forest operations. Prerequisite: Introductory courses in computing science and calculus. Not open to students with credit in AG EN 421. [Agricultural Engineering]

REN 435 Advanced Transportation of Forest Products
(second term, 3-0-3). Advanced studies in the methods and systems of movement of wood and wood products. Equipment for primary and secondary transportation of timber. Planning and cost analysis of logging operations and equipment. Forest roads and bridges. Prerequisite: FOREN 335. (Offered jointly by the Departments of Agricultural Engineering and Forest Science.) [Forest Science]

REN 550 Problems in Forest Engineering
(either term, 3-0-0). Directed study in forest engineering, including forest harvesting, road location and construction. Prerequisite: Consent of instructor. (Offered jointly by the Departments of Agricultural Engineering and Forest Science.) [Forest Science]

REN 560 Trends and Problems in Wood Science I
(either term, 0-3s-0). Individual study. Directed study of wood technology and forest products. Prerequisite: Consent of instructor. [Agricultural Engineering]

REN 561 Trends and Problems in Wood Science II
(either term, 0-3s-0). Individual study. Directed study of wood technology and forest products. Prerequisite: Consent of instructor. [Agricultural Engineering]

4.10 Forest Science

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
FOR 200	FOR 100	FOR 427	FOR 421
FOR 210	FOR 110	FOR 450	FOR 350
FOR 310	FOR 210	FOR 451	FOR 405
FOR 315	FOR 120	FOR 452	FOR 450
FOR 316	FOR 321	FOR 454	FOR 401
FOR 317	FOR 323	INT D 470	INT D 460
FOR 318	FOR 322	FOR 500	FOR 610
FOR 360	FOR 260	FOR 503	FOR 501
FOR 362	FOR 472	FOR 517	FOR 523
FOR 411	FOR 433	FOR 520	FOR 503
FOR 412	FOR 439	FOR 522	FOR 590
FOR 415	FOR 420	FOR 525	FOR 502
FOR 417	FOR 427	FOR 526	FOR 522
FOR 422	FOR 490	FOR 590	FOR 690

FOR 100 Introduction to Forestry
3 (first term, 3-0-0). A general introduction to trees and other forest plants, forest ecology, and forest land-use planning. Includes discussions of the relationships between recreation, water, wildlife, agriculture, range and timber to forest management policies and practices in Alberta and elsewhere. Not available for credit to BSc Forestry students.

FOR 110 Wildland Resources Measurements
3 (second term, 3-0-3). Designed to introduce students to the principles and practices of measuring a variety of wildland resources including: timber, water, range, wildlife and recreation. Formerly called FOR 210. Recommended that STAT 236 be taken concurrently.

FOR 120 Dendrology
3 (first term, 3-0-4). Identification, classification, distribution, and silvics of the forest trees and important shrubs of Canada; their commercial and ecological values; brief consideration of their management; field trips.

FOR 210 Forest Measurements
3 (first term, 3-0-3). Principles and practices of measuring and estimating present and future fiber production of forest communities, including applications of statistics, sampling techniques, regression analysis and computer programming. Formerly called FOR 310. Prerequisite: FOR 110, MATH 113, CMPUT 251 and three units of course weight of statistics.

FOR 260 Conservation and Recreational Use of Wildlands
3 (second term, 3-0-0). History, philosophy and modern relationship of man and wildland environments; origins and ethics of conservation and preservation; National Parks movement; current perspectives concerning parks, protected areas and recreational trends.

FOR 301 Forestry Field Camp
6 (second term, 5 weeks). Five weeks of field exercises in forest mensuration, protection, ecology, and management planning. Conducted immediately following normal second term examinations. Required of all students pursuing the BSc in Forestry. Students enrolled in the BSc Forestry program will not be allowed to enroll in FOR 431 without having satisfactorily completed FOR 301. A fee to cover room and board, and partial camp expenses will be charged. For the 1989-90 camp, this was $475. Prerequisite: AGFOR 104, FOR 210 and FOR 120 and FOREN 201.

FOR 314 Forest Soils
3 (second term, 3-0-3). Chemical, physical, and biological properties and processes of soil in relation to site and the growth of forest vegetation; nutrient cycling; impacts upon soil, environmental quality, and forest productivity or fertilization, erosion, fire, site preparation, forest harvesting, and grazing; forest land classification. Prerequisite: SOILS 310. [Soil Science]

FOR 321 Tree Structure and Function
3 (second term, 3-0-3). Developmental morphology, anatomy and physiology of trees. Role of internal and environmental factors in the growth and development of trees: relationship of environment and structure to function. Prerequisite: BOT 199 and BOT 240.

FOR 322 Forest Ecosystems
3 (first term, 3-0-3). Analysis of forest ecosystems energy flow, productivity, nutrient cycling, succession, responses to disturbance and manipulation, and simulations. Prerequisite: BOT 130 and CMPUT 251.

FOR 323 Silviculture
3 (first term, 3-0-3). Forest regeneration principles and techniques; stand tending including fertilization, thinning, pruning and drainage; harvesting systems for reforestation; nursery practices; reforestation, the law and current practices. Prerequisite: FOR 321.

FOR 340 Forest Fire Management
3 (second term, 3-0-3). Fire thermophysics, combustion energetics, fire behavior, fuels measurement and manipulation, and fire effects; prevention, detection, suppression, settlement protection, preattack planning, and prescribed burning as part of sophisticated forest management.

FOR 350 Forest and Range Hydrology
3 (first term, 3-0-3). The role of forest and range vegetation in determining the hydrologic function of a watershed; natural storage phenomena of the forest land surface and ways it can be modified; field trips. Prerequisite: FOR 314.

INT D 365 Natural Resource Economics
3 (either term, 3-0-0). Economics of natural resources related to agriculture and forestry; conservation, population, resource scarcity, property and tenure institutions, economic rent and resource pricing, resource development and evaluation, environmental protection, public resource policy. Prerequisite: ECON 101; ECON 102 recommended. Note: Not open to students with credit in ECON 365. (Offered jointly by the Departments of Rural Economy and Forest Science.) [Rural Economy]

FOR 365 Forest Wildlife
3 (second term, 3-0-3). A survey of vertebrates indigenous to forest systems of western Canada with emphasis upon identification, life history, ecology, forestry impact. Effective communication of wildlife values and benefits. Field trips. Prerequisite: Consent of instructor.

FOR 401 Special Topics in Forest Resources
3 (either term, 3-0-0). Studies in the multiple aspects of forest management, including wildlife, recreation, watershed, range and timber. Prerequisite: Consent of instructor.

FOR 405 Intermediate Forest Problems
3 (either term, 0-3s-0). Individual study. Problems in specialized areas of forest science. Prerequisite: Consent of instructor.

FOR 410 Principles of Remote Sensing
3 (first term, 3-0-3). Basic principles of spectral reflectance and emittance, and atmospheric effects as they apply to the acquisition and analysis of imagery; application to renewable resource inventory and management. Prerequisite: A 300-level course in at least one of the natural sciences. [Soil Science]

FOR 413 Integrated Wildland Resource Assessment
3 (first term, 3-0-3). An examination of information requirements, inventory procedures, data storage and retrieval systems, and data use for integrated land use planning. Prerequisite: FOR 110.

FOR 420 Advanced Dendrology
3 (second term, 3-0-0). Studies of woody plant vegetation of the world, especially temperate and boreal regions; evolution of, and genetic relationships among, tree and shrub genera and species; historical development of woody plant vegetation; optional field trip. Prerequisite: Consent of instructor. Offered alternate years.

FOR 421 Tree Physiology
3 (first term, 3-0-3). Study of physiological processes of forest trees; relationship of environment and structure to function; emphasis on growth processes, primary production processes, reproduction, dormancy; influence of silvicultural practices on growth, and physiological processes. Formerly called FOR 427. Prerequisite: Consent of instructor. Offered in alternate years.

FOR 427 Tree Seedling Production
3 (second term, 3-0-3). Theory and current practice of the production of tree seedlings. Includes discussion of seed collection and handling, seedling ecophysiology in relation to the nursery environment, hardening and storage of container and bare root seedlings. Will include guest speakers and student seminars. Offered alternate years. Formerly called FOR 417. Prerequisite: Consent of instructor.

FOR 430 Forest Resources Management I
3 (second term, 3-0-3). Analytical techniques used by renewable resource managers for management of wildland areas for single or multiple outputs; problems of defining optimality when confronted with competing uses and multiple outputs. Prerequisite: CMPUT 251, FOR 210 and FOREC 345.

FOR 431 Forest Resources Management II
3 (first term, 3-0-3). The use of simulation, mathematical programming, and systems analysis by resource managers as decision-making aids. Application of techniques covered in Forest Resources Management I to case study problems. Prerequisite: FOR 301, 321 and 430.

INT D 432 Forest Administration and Policy
3 (second term, 2-1s-0). Analysis of how forest resources policies are developed, and criteria for evaluation. Historical review to illustrate how policies and programs evolved as they have. Review of current policy issues. Outline of principles of organization for resource administration. Lectures, student seminars and assigned reading. Prerequisite: Open only to students in final year of their programs. (Offered jointly by the Departments of Forest Science and Rural Economy.) [Forest Science]

FOR 433 Forest Growth and Yield Prediction
3 (first term, 3-0-3). Selected topics in forest mensuration, regression analysis, growth and yield prediction. Sampling methods, growth models and data management. Prerequisite: FOR 210.

FOR 439 Timber Management Planning
3 (second term, 2-2s-2). Management of forests with fiber production as the primary objective: decision-making techniques; implementation and control of plans; and integration with other forest uses. Emphasis on timber harvest scheduling techniques. Prerequisite: FOR 430 and 431.

FOR 450 Forest Watershed Management
3 (second term, 3-0-3). Principles and methods involved in managing forest and range land to obtain optimum production and regulation of water yields while maintaining soil stability; watershed management as a component of integrated forest resources management; field trips. Prerequisite: FOR 350. Offered in alternate years.

INT D 460 Heritage Interpretation Field Trip
3 (either term, 0-2s-6). Extended field trip to examine comparatively the philosophies, approaches and applied methodologies of a diverse range of institutions and agencies engaged in the practice of heritage interpretation. Prerequisite: Consent of instructor. (Offered jointly by the Departments of Forest Science and Recreation and Leisure Studies. [Forest Science]

FOR 462 Wildland Recreation Management
3 (first term, 3-0-3). Principles and methods of management of National and Provincial Parks, and forest recreational systems; wilderness management; the integration of biological and sociological criteria in park and recreational management. Field trips. Prerequisite: FOR 260.

FOR 463 Wildland Recreation Planning
3 (second term, 3-0-0). Survey of current principles and practices relevant to the planning of parks, wilderness areas and recreational environments in wildland settings. Emphasis on current case studies. Prerequisite: FOR 260 or FOR 462.

FOR 464 Conservation and Management of Endangered Species
3 (first term, 3-0-0). Theoretical and applied considerations for maintaining wildlife populations considered endangered, threatened or rare. Global, national and provincial strategies for species conservation. Contributary factors of declines, extinctions, and species recovery.

Special reference to forestry practices that can be used to help maintain or improve populations of species of concern. Case studies and field trips. Prerequisite: One of FOR 260, AN SC 350, ZOOL 467.

INT D 467 Methods of Heritage Interpretation
★3 (either term, 3-3s-0). Application of principles of interpretation of natural and historic resources. Focus on management techniques and development of interpretative programs. Case studies and field trip. Prerequisite: Consent of instructor; INT D 466 recommended as complementary. (Offered jointly by the Departments of Forest Science and Recreation and Leisure Studies.) [Forest Science]

FOR 472 Human Factors in Wildland Resource Management
★3 (first term, 3-0-3). Overview of the relationship between people, as individuals or groups, and their interface with the environment. The course draws on findings in sociology, psychology, sociobiology, communications theory and other social sciences to present an understanding of the social and political dimensions of modern wildland resource systems. (Offered jointly by the Departments of Forest Science and Rural Economy.) [Forest Science] Prerequisite: Third year standing or higher.

FOR 475 Vegetative Reclamation of Forest Lands in Alberta
★3 (second term, 3-0-3). Topics include reclamation legislation, environmental impact statements, and the resource development process in Alberta. Operational implementation of revegetation principles related to reclamation, reclamation machinery, including seed mixture design, ecology of reclamation plants, plant succession on reclaimed sites, and the restoration of native plant communities. Computer assisted retrieval of reclamation information is taught in lecture and lab. Lab exercises cover principles of plant establishment and identification of reclamation plant species. Prerequisite: A course in ecology, FOR 120, FOR 314 and CMPUT 251.

FOR 490 Forest Tree Improvement
★3 (second term, 3-0-3). Application of principles of inheritance as related to trees and in the management of forested lands; natural variation and ecological differentiation of woody plant populations; reproductive biology; methods of tree improvement. Prerequisite: Consent of instructor.

FOR 501 Special Topics in Forestry
★3 (either term, 3-0-0). Formerly called FOR 503. Prerequisite: Consent of instructor.

FOR 502 Problems in Forest Ecology
★3 (either term, 0-3s-0). Individual study. Directed study in forest ecology. Prerequisite: Consent of instructor.

FOR 503 Problems in Silviculture
★3 (either term, 0-3s-0). Individual study. Directed study in silviculture. Formerly called FOR 520. Prerequisite: Consent of instructor.

FOR 522 Advanced Forest Ecology
★3 (first term, 3-0-0). Studies of the ecology of the major forested ecosystems of Canada, particularly composition, physical and biological factors of importance, variability within regions, silvicultural techniques, management problems; limiting factors, productivity, special adaptations, role of man; term project required. Optional field trip. Formerly called FOR 526. Prerequisite: Consent of instructor. Offered alternate years.

FOR 523 Advanced Silviculture
★3 (second term, 3-0-3). Various topics including forest tree nursery locations, cycles, stock, types, instrumentation requirements and problems; advanced aspects of silvicultural planning related to integrating silvicultural considerations into woods operations. Two or three field trips may be scheduled for weekends or lab time. Prerequisite: Consent of instructor.

FOR 535 Problems in Forest Resources Management
★3 (either term, 0-3s-0). Individual study. Directed study in forest resources management. Prerequisite: Consent of instructor.

FOR 545 Problems in Forest Fire
★3 (either term, 0-3s-0). Individual study. Directed study in forest fire. Prerequisite: Consent of instructor.

FOR 546 Advanced Fire Ecology
★3 (first term, 3-0-0). The role of fire as an abiotic input in wildland environments. Its effect on plant succession; primary producers, consumers, decomposers; from an autecological and synecological perspective. Prerequisite: Consent of instructor.

FOR 555 Problems in Forest Hydrology
★3 (either term, 0-3s-0). Individual study. Directed study in forest hydrology. Prerequisite: Consent of instructor.

FOR 565 Problems in Forest Recreation
★3 (either term, 0-3s-0). Individual study. Directed study in forest recreation. Formerly called FOR 522. Prerequisite: Consent of instructor.

FOR 590 Seminar in Tree Improvement
★3 (second term, 0-3s-0). Reports and discussion of current literature and advanced topics in forest genetics and tree improvement. Formerly called FOR 522. Prerequisite: Graduate standing and consent of instructor; FOR 490 and GENET 197 recommended.

34.11 Interdisciplinary Courses

Courses listed below are the concern of more than one discipline. Students may register in these courses either as options or as courses in one of the disciplines listed in the footnote under each course, subject to the usual curriculum requirements, prerequisites, etc. Normally, in the Faculty of Agriculture and Forestry, these courses will be credited to the discipline listed in square brackets. Instruction will be offered by members of one or more of the departments or faculties listed beneath the course description. For the following interdisciplinary courses, where the department responsible for registration has been assigned, the department so designated will appear in square brackets following the course description.

INT D 302 Economics of Agriculture
★3 (either term, 3-0-0). The nature and scope of agricultural economics; economic aspects of agricultural production, marketing, finance, resource use, prices, and policy; relation of the agricultural sector to the economy as a whole; analysis of structural change, economic growth, and adjustment in agriculture. Prerequisite: ECON 101/102. (Offered jointly by the Departments of Economics and Rural Economy.) [Rural Economy]

INT D 303 Economics of World Agriculture
★3 (either term, 3-0-0). Economic issues in international agriculture including world food security, farming systems, agricultural trade and aid. The role of agriculture in development and means of improving the performance of agriculture world-wide. Foreign domestic agricultural policies and international trade protection measures, and potential reforms in relation to Canadian agricultural interests. Prerequisite: ECON 101/102. (Offered jointly by the Departments of Economics and Rural Economy). [Rural Economy]

INT D 356 Sociology of Rural Life
★3 (either term, 3-0-0). The rural community and rural social systems, with special reference to changes in the rural way of life. Prerequisite: R SOC 355, or one of SOC 100, 202 or 300. (Offered jointly by the Departments of Rural Economy and Sociology.) [Rural Economy]

INT D 365 Natural Resource Economics
★3 (either term, 3-0-0). Economics of natural resources related to agriculture and forestry; conservation, population, resource scarcity, property and tenure institutions, economic rent and resource pricing, resource development and evaluation, environmental protection, public resource policy. Prerequisite: ECON 101; ECON 102 recommended. Note: Not open to students with credit in ECON 365. (Offered jointly by the Departments of Rural Economy and Forest Science.) [Rural Economy]

INT D 369 Economics of the Environment
★3 (either term, 3-0-0). Economic growth and the deterioration of the environment; types and causes of environmental deterioration; theory, policy, and measurement relating to environmental deterioration; recreation economics; and current Canadian environmental topics. Prerequisite: ECON 101 or 204. (Offered jointly by the Departments of Economics and Rural Economy.) [Economics]

INT D 382 Theory and Practice of Cooperation
★3 (first term, 3-0-0). Economic and sociological principles of cooperation; the evaluation of cooperative organization; cooperative law and taxation; management and finance of cooperatives. Prerequisite: ECON 101 and R SOC 355. [Rural Economy]

INT D 421 Peatlands
★3 (first term, 3-0-3). Climatic, geologic and hydrologic factors of peatland development; ecosystem dynamics of peat formation including flora and fauna, biogeochemical cycles, and energy fluxes; stratigraphy and evolution; classification; utilization in forestry, agriculture, horticulture and as fuel. Two one-day field trips on Saturdays. Offered in alternate years. Prerequisite: A 100-level or higher ecology course and a 300-level Soils course. (Offered jointly by the Departments of Botany and Soil Science.) [Soil Science]

INT D 432 Forest Administration and Policy
★3 (second term, 2-1s-0). Analysis of how forest resources policies are developed, and criteria for evaluation. Historical review to illustrate how policies and programs evolved as they have. Review of current policy issues. Outline of principles of organization for resource administration. Lectures, student seminars and assigned reading. Prerequisite: Open only to students in fina... of their programs. (Offered jointly by the Departme... Forest Science and Rural Economy.) [Forest Scien...

INT D 455 Molecular Plant Development
★3 (second term, 3-0-0). Recent advances in ... molecular biology will be introduced through a stu... plant development at the molecular level. The c... will examine how developmental processes can be... as model systems to study gene expression in h... plants. Both developmental regulation and stres... duced alteration of gene expression will be co... using specific examples. Prerequisite: BOT 382 ... SC 301. GENET 270 recommended. Offered in alte... years (Offered jointly by the Departments of Botan... Plant Science.) [Botany].

INT D 456 Rural Social Problems and Public Po...
★3 (either term, 3-0-0). Social problems in Can... rural life; analysis of policy making processes relat... these problems. Prerequisite: Consent of instructor; ... 356 recommended. (Offered jointly by the Departn... of Rural Economy and Sociology.) [Rural Economy

INT D 458 Socioeconomic Development of Wes... Canadian Agriculture
★3 (first term, 3-0-0). The economic and social orig... Western Canadian agricultural development. A chr... logical examination of farm and political organiza... and other agrarian social movements influencin... farming sector. The growth of public policy and develop... of the institutional framework supporting agricu... Discussion of past and present issues in Western Can... agricultural development, including such factors as ... settlement, transportation and farming support serv... Prerequisite: R SOC 355, or one of SOC 100 or ... (Offered jointly by the Departments of Rural Eco... and Sociology.) [Rural Economy]

INT D 460 Heritage Interpretation Field Trip
★3 (either term, 0-2s-6). Extended field trip to exa... comparatively the philosophies, approaches and ap... methodologies of a diverse range of institutions ... agencies engaged in the practice of heritage interp... tion. Prerequisite: Consent of instructor. (Offered j... by the Departments of Forest Science and Recre... and Leisure Studies. [Forest Science]

INT D 465 Natural Resource Utilization
★3 (either term, 3-0-0). Economics of utilizing ... conserving land, water and energy resources in Agricu... and Forestry. Prerequisite: INT D 365. [Rural Econ...

INT D 466 Principles of Heritage Interpretation
★3 (either term, 3-0-0). Examination of heritage ... pretation as an expression of cultural and environm... recreation programs. Prerequisite: Consent of instru... (Offered jointly by the Departments of Forest Sci... and Recreation and Leisure Studies.) [Recreation ... Leisure Studies]

INT D 467 Methods of Heritage Interpretation
★3 (either term, 3-3s-0). Application of principle... Interpretation of natural and historic resources. F... on management techniques and development of p... pretative programs. Case studies and field trip. Pre... uisite: Consent of instructor; INT D 466 recomme... as complementary. (Offered jointly by the Departm... of Forest Science and Recreation and Leisure Stud... [Forest Science]

INT D 486 Livestock and Meat Marketing
★3 (second term, 3-0-1). Marketing problems, poten... and principles studied through in-depth analysis o... red meat industry. Prerequisite: AG EC 384. ... Limited enrollment, preference given to fourth ... agricultural students. (Offered jointly by the Departm... of Rural Economy and Animal Science.) [Rural Econ...

INT D 551 Advanced Plant Biochemistry
★3 (second term, 3-0-0). Selected topics in plant... tabolism, with particular emphasis on mitochondrial ele... transport, phosphorylation, and recent advances in ... bon assimilation. Evaluation of current research ... methods of investigation in these fields. Offere... alternate years. Prerequisite: Consent of instructor; BI... 301 or PL SC 331 and 432. (Offered jointly by ... Departments of Botany and Plant Science.) [Plant Sci...

34.12 Plant Science

PL SC 115 Introductory Plant Science
★3 (first term, 3-0-0). An introductory overview of clim... and biological factors in relation to the growth of n... and cultivated crop plants. Global view of adaptat... distribution and production. Principles of crop prote... and management. This course is designed for 1st ... 2nd year level students. It is not available for cred... students who have prior credit in any Plant Sci... course.

L SC 301 Developmental Physiology and otechnology of Crop Plants
3 (first term, 3-0-0). A theoretical approach to plant d plant cell developmental physiology as it relates to op production and crop improvement through otechnology, including use of tissue culture and combinant DNA technologies. Topics covered will inude changes through the lifecycle and in response to vironmental stress, and genomic and expressional ntrol of these changes. Prerequisite: CHEM 160 or 0; GENET 197 recommended.

L SC 331 Plant Biochemistry
3 (first term, 3-0-3). An introduction to biochemistry. asic biochemical similarity of all organisms. Ways of udying biochemical reactions. Nature and kinds of nzymes; qualitative aspects of rates of enzyme catalyzed actions. Derivation of energy through degradative ocesses. Chemistry and metabolism of carbohydrates nd fats and oils. Prerequisite: CHEM 160 or 260.

L SC 350 Principles of Horticulture
3 (first term, 3-0-3). A basic course in horticulture, with pecial emphasis on the physiology of horticultural crops. aboratory practice in plant identification, propagation, ulture, marketing and storage of crops; their economic mportance and value as foods. Also an introduction to ndscape horticulture. Prerequisite: BOT 199.

L SC 352 Weeds and Weed Control
3 (second term, 3-0-3). Crop-weed relationships, methods f control, herbicide properties and uses, weed identifiation. Other uses of plant growth regulators. Prerequiite: BOT 199.

L SC 354 Forage Crops
3 (second term, 3-0-3). An introduction to the estabshment, management, conservation and utilization of rages for pasture and hay. Morphological structure nd varietal forms of the principal forage grasses and gumes. Prerequisite: BOT 199.

L SC 355 Cereal and Oilseed Crops
3 (first term, 3-0-3). Botanical, physiological, agricultural and market quality characteristics of Western Canadian ereal and oilseed crops. Prerequisite: BOT 199.

L SC 356 Range Management
3 (first term, 3-0-3). Introduction to range management rinciples and practices: effects of grazing on plants; egetation types; utilization and range health; range nanagement planning. Prerequisite: BOT 199.

L SC 380 Principles of Plant Pathology
3 (first term, 3-0-3). An introduction to plant diseases; he nature of nonparasitic and parasitic causal agents such as air pollutants, temperature, viruses, bacteria, ungi, higher plants and nematodes; principles involved n disease prevention and control. Prerequisite: BOT 199.

L SC 385 Forest Pathology
3 (first term, 3-0-3). An introduction to forest diseases. ectures and discussions focus on the biology and nanagement of the major types of tree diseases causing economic loss. Labs focus on disease identification. A asic knowledge of forestry is assumed.

PL SC 406 Range Plants of Western Canada
3 (second term, 3-0-3). Identification, ecology and nutritive value of plants grazed by wild and domestic ungulates on Western Canadian rangelands. Prerequisite: One of PL SC 356, FOR 120, or BOT 210.

PL SC 407 Range Plants of North America
3 (first term, 1-0-6). An in-depth study of the plants and communities of North American rangelands. Offered in alternate years. Prerequisite: PL SC 356; PL SC 406 strongly recommended.

PL SC 424 Field Crop Physiology
3 (second term, 3-0-3). The study of crop growth and development, with emphasis on the interactions among physiology, environment and management. Examples from forage, cereal, oilseed and grain legume crops, considering both annual and perennial forms. Prerequisite: BOT 240 or PL SC 350 or PL SC 432.

PL SC 432 Plant Biochemistry.
3 (second term, 3-0-3). A continuation of PL SC 331. Emphasis is on the utilization of energy for synthetic processes. Chemistry and biochemistry of cellular structures, isoprenoids and steroids. Photosynthesis. Nitrogen and protein biochemistry. Enzyme kinetics. Regulation and control of chemical reactions in living organisms. Prerequisite: PL SC 331.

PL SC 455 Vegetable Crops
3 (first term, 3-0-3). The science and practice of producing commercially important cool and warm season vegetable crops with emphasis on botany, taxonomy, morphology, growth processes, production, harvesting, handling quality and composition. Prerequisite: PL SC 350.

PL SC 465 Introduction to Plant Breeding
3 (first term, 3-0-0). Basic principles of crop improvement by plant breeding. Development of plant breeding methods and their relationship to the major crop species. Prerequisite: GENET 197 and three units of course weight of statistics.

PL SC 470 Physiology of Herbicidal Action
3 (first term, 3-0-0). Absorption, translocation, degradation, mechanism of action. Offered in alternate years commencing in 1990-91. Prerequisite: PL SC 352 and BOT 240.

PL SC 471 Rangeland Management
3 (first term, 3-0-3). Principles and practices related to the manipulation of rangeland ecosystems. Several afternoon field trips are required. Offered in alternate years. Prerequisite: PL SC 356; PL SC 406 recommended.

PL SC 472 Advances in Forage Production
3 (first term, 3-0-3). Forage production and management practices as related to the growth and development of the plant. Maximizing forage utilization under different grazing systems. Pasture establishment and rejuvenation. Forage preservation. The forage seed industry. Managing grass legume mixtures. Offered in alternate years. Prerequisite: PL SC 354.

PL SC 481 Diseases of Field Crops
3 (second term, 3-0-3). Diseases of grain, forage, and other field crops. Prerequisite: PL SC 380.

PL SC 482 Diseases of Horticultural Crops
3 (second term, 3-0-3). Diseases of potato, vegetable, fruit, and ornamental plants. Prerequisite: PL SC 380.

PL SC 501 Reading Project in Plant Science
3 (first term, 0-3s-0). Individual study.

PL SC 502 Reading Project in Plant Science
3 (second term, 0-3s-0). Individual study.

PL SC 503 Topics in Plant Breeding
3 (second term, 3-0-0). Theory and practice for special plant breeding problems. Topics are developed with students, including technology applications, design of efficient breeding systems (including applications of biotechnology), applied use of quantitative methods, development of new crop species, gene patents, and special breeding problems. Extensive reference to literature. Prerequisite: PL SC 465. Offered in alternate years.

PL SC 505 Research Project in Plant Science
3 (first term, 0-3s-0). Individual study.

PL SC 506 Research Project in Plant Science
3 (second term, 0-3s-0). Individual study.

PL SC 510 Plant Virology
3 (first term, 3-0-3). Basic principles and methods dealing with morphology, purification, multiplication, mutation, and transmission of plant viruses. Prerequisite: Consent of instructor.

PL SC 520 Disease Diagnostics
3 (Intersession session 0-0-6). Identification of diseases of field, greenhouse, and forest crops. A disease collection is required.

INT D 551 Advanced Plant Biochemistry
3 (second term, 3-0-0). Selected topics in plant metabolism, with particular emphasis on mitochondrial electron transport, phosphorylation, and recent advances in carbon assimilation. Evaluation of current research and methods of investigation in these fields. Offered in alternate years. Prerequisite: Consent of instructor; BIOCH 301 or PL SC 331 and 432. (Offered jointly by the Departments of Botany and Plant Science.) [Plant Science]

PL SC 580 Epidemiology of Plant Diseases
3 (second term, 1-3s-0). Reproduction, spread and survival of air-borne and soil-borne plant pathogens. Monitoring and modelling of disease and crop loss progression. Plant Pathosystems and principles of breeding for disease resistance. Critical evaluation of current literature will be stressed. Offered in alternate years. Prerequisite: Consent of instructor.

34.12.1 Reserve List

The Department is unable to offer the following courses on a regular basis. Students should consult the Department for further information.

PL SC 454 Fruit Crops
3 (second term, 3-0-3). Prerequisite: PL SC 350.

PL SC 457 Greenhouse Crops
3 (second term, 3-0-3). History and present status of protected cropping industry; greenhouse structural design; systems of environmental control; cultural procedures for some commonly grown greenhouse crops. Prerequisite: PL SC 350.

PL SC 458 Herbaceous Ornamentals
3 (first term, 3-0-3). Classification, propagation, culture and landscape use of herbaceous ornamental plants. Prerequisite: PL SC 350.

PL SC 459 Woody Ornamentals
3 (first term, 3-0-3). Identification, culture and landscape uses of trees, shrubs and ground covers. Planting design and use of landscape architectural conventions. Prerequisite: PL SC 350.

PL SC 460 Principles of Landscape Architecture
3 (first term, 3-0-3). Site planning; introduction to design; graphic techniques, grading and surface drainage.

PL SC 500 Statistics for Biological Research
3 (first term, 3-0-3).

PL SC 509 Selected Topics in Horticulture
3 (either term, 0-3s-0). Recent developments of special interest discussed at an advanced level.

34.13 Poultry Science

Department of Animal Science

For courses in poultry science see §34.5.2.

34.14 Rural Sociology

Department of Rural Economy

R SOC 355 Principles of Rural Sociology
3 (either term, 3-0-0). The basic principles and concepts of sociology as they apply to the study of rural life; concepts of culture, social organization, population and ecology, and social institutions are taught with rural examples. Prerequisite: Second year standing or higher. Note: Not open for students with credit in SOC 100. R SOC 355 is acceptable in lieu of SOC 100 as a prerequisite for senior level sociology courses for Faculty of Agriculture and Forestry students only.

INT D 356 Sociology of Rural Life
3 (either term, 3-0-0). The rural community and rural social systems, with special reference to changes in the rural way of life. Prerequisite: R SOC 355, or one of SOC 100, 202 or 300. (Offered jointly by the Departments of Rural Economy and Sociology.) [Rural Economy]

R SOC 391 Principles of Rural Extension
3 (first term, 3-0-0). Introduction to concepts involved in organizing and implementing effective programs for social change in rural communities. The processes by which farm and rural people learn about, try out and adopt or reject new ideas and innovations. Development of an appreciation for the multidisciplinary nature of the rural extension function. Prerequisite: Third year standing or higher.

R SOC 415 Socio-Economic Research Techniques
3 (either term, 3-0-2). Research design, language of research, sample selection, questionnaire construction, interviewing, machine tabulation, analysis, and report writing. Prerequisite: Third year standing or higher.

INT D 456 Rural Social Problems and Public Policy
3 (either term, 3-0-0). Social problems in Canadian rural life; analysis of policy making processes related to these problems. Prerequisite: Consent of instructor; INT D 356 recommended. (Offered jointly by the Departments of Rural Economy and Sociology.) [Rural Economy]

INT D 458 Socioeconomic Development of Western Canadian Agriculture
3 (first term, 3-0-0). The economic and social origins of Western Canadian agricultural development. A chronological examination of farm and political organizations and other agrarian social movements influencing the farming sector. The growth of public policy and development of the institutional framework supporting agriculture. Discussion of past and present issues in Western Canadian agricultural development, including such factors as land settlement, transportation and farming support services. Prerequisite: R SOC 355, or one of SOC 100 or 300. (Offered jointly by the Departments of Rural Economy and Sociology.) [Rural Economy]

R SOC 491 Planning and Evaluation of Extension Programs
3 (second term, 3-0-0). The nature and importance of and principles involved in planning, programming, implementation, and evaluation; knowledge, skills and attitudes required of professional workers engaged in human resources development and extension work. Prerequisite: R SOC 391.

R SOC 556 Human Resources Development
★3 (first term, 3-0-0). The role of human resources in social and economic development. Strategies for development of knowledge; skills and attitudes desirable in the development process. Training of change agents and lay leaders for community development and continuing education process. Prerequisite: Consent of instructor.

R SOC 557 Comparative Rural Societies
★3 (second term, 3-0-0). The structure and characteristics of rural societies in various countries, with emphasis upon adjustment to change in social and economic institutions. Prerequisite: Consent of instructor; INT D 456 recommended.

34.15 Soil Science

Note: Except for SOILS 600, SOILS 510-620 are offered only when justified by enrollment, normally in alternate years.

SOILS 310 Introduction to Soil Science
★3 (first term, 3-0-3). Elementary aspects of soil formation, soil occurrence in natural landscapes, soil classification, soil resource inventory; basic morphological, biological, chemical and physical characteristics employed in the identification and study of soils. Prerequisite: Must have completed five full-course equivalents of university credit.

SOILS 316 Soils and People
★3 (second term, 3-0-0). How people have used the world soil resource, with reference to limiting factors such as climate, loss of soil fertility, salinization, acidification, loss of land to urbanization, wind and water erosion and pollution. How soil resources influence human activities with examples from North America, Europe, and the Tropics. Not a suitable prerequisite for other soil science courses. Prerequisite: Must have completed five full-course equivalents of university credit.

SOILS 330 The Soil Ecosystem
★3 (first term, 3-1s-0). Soil as an ecosystem; physical and chemical aspects of the soil environment; ecologically and pedologically significant aspects of soil organisms; functioning of the soil ecosystem; role of soil organisms in soil development. Prerequisite: SOILS 310 or a 200-level course in ecology.

SOILS 360 Soil Management and Conservation
★3 (second term, 3-3s-0). An applied course which considers the relationship of soil properties to the use, management and conservation of soils for agriculture. Topics include soil tilth, soil water, soil temperature, soil pH, soil salinity, soil deterioration and erosion. Soil management practices including amelioration of problem soils, maintenance of organic matter and erosion control are discussed. Prerequisite: SOILS 310.

SOILS 401 Research Project
★3 (either term, 0-3s-0). Individual study. Study under staff supervision of a specialized topic, requiring the preparation of a comprehensive report; primarily for fourth-year students. Prerequisite: Consent of the Department Chair.

SOILS 402 Research Project
★6 (0-3s-0). Individual study. Study under staff supervision of a specialized topic, requiring the preparation of a comprehensive report; primarily for fourth-year students. Prerequisite: Consent of the Department Chair.

SOILS 415 Soil Mineralogy
★3 (second term, 3-0-3). Mineral components of soil with emphasis on weathering processes in different soil environments; influence of inorganic components on soil behavior; nature of crystalline and amorphous soil clays; significance of mineral formation in soils. Arrangement of soil components into microfabric types. Prerequisite: SOILS 310.

SOILS 420 Soil Formation and Classification
★3 (first term, 3-0-3). Soil formation and classification with emphasis on environmental forces, including man's activity, as factors of soil pedogenesis. Soils of Canada — kinds, distribution and use. Prerequisite: SOILS 310 or any 300-level earth science course.

INT D 421 Peatlands
★3 (first term, 3-0-3). Climatic, geologic and hydrologic factors of peatland development; ecosystem dynamics of peat formation including flora and fauna, biogeochemical cycles, and energy fluxes; stratigraphy and evolution; classification; utilization in forestry, agriculture, horticulture and as fuel. Two one-day field trips on Saturdays. Offered in alternate years. Prerequisite: A 100-level or higher ecology course and a 300-level Soils course. (Offered jointly by the Departments of Botany and Soil Science.) [Soil Science]

SOILS 425 Soil and Land Evaluation
★3 (second term, 3-0-3). Principles and techniques of soil/land evaluation including land classification based on inherent characteristics, present land use/land cover, and land capabilities for alternate land use; assessment of soil quality from morphological, chemical and physical data; use of soil survey data in agriculture, forestry and engineering. Prerequisite: SOILS 420.

SOILS 430 Soil Microbiology and Biochemistry
★3 (second term, 3-0-3). Students discover: i) distinguishing characteristics and environmental, industrial or biotechnological implications of specific soil micro-organisms; ii) principles governing methods to study soil organisms and biochemical processes; iii) mechanisms controlling organic matter cycling and stabilization with reference to C, N, S and P; iv) microbial interactions with metals and xenobiotics; and v) criteria for assessing influence of soil microbiology and biochemistry at the landscape level. The laboratory prepares students to study soil microorganisms and biochemical processes using the scientific method and modern techniques. Prerequisite: SOILS 310 or any 300-level course in the biological sciences.

SOILS 440 Soil Physics
★3 (first term, 3-0-3). Physical properties of soil affecting its structural, mechanical and thermal behaviour and their quantitative measurements; fundamental principles and laws which govern the soil as a physical system with particular emphasis on the character, measurement and movement of soil moisture. Prerequisite: SOILS 310 or completion of 10 full-course equivalents of university science courses.

SOILS 450 Soil Chemistry
★3 (first term, 3-0-3). Mechanisms, equations and adsorption, adsorption isotherms, cation exchange capacity, variable and permanent charge, cation and anion fixation and rates of reaction, adsorption of polymers, solute transport, oxidation and reduction, flocculation and dispersion, chemistry of sodium, calcareous and acid soils, soil pollution, adsorbed water. Prerequisite: SOILS 310.

SOILS 460 Soil Fertility
★3 (second term, 3-0-3). Essential plant nutrients; factors influencing nutrient availability; methods of evaluating soil fertility; correction of soil fertility problems; manufacture, composition, and use of fertilizers. Prerequisite: SOILS 310.

SOILS 461 Agroecosystem Simulation
★3 (second term, 3-0-3). The student will learn the rationale for integrating scientific findings at lower levels of physical and biological organization into mathematical models. The student will learn to simulate basic processes such as photosynthesis, respiration, growth, decompostion, and nutrient and water intake, and to integrate them into higher-level agroecosystem models. Prerequisite: BOT 240, SOILS 310 and one other Soils course.

SOILS 470 Land Drainage
★3 (second term, 3-0-0). Principles of land drainage; drainage design criteria; design of surface and subsurface drainage systems; drainage investigations; current drainage practices. Prerequisite: One of AG EN 308 or 313, GEOL 588, SOILS 440. (Offered jointly with the Department of Agricultural Engineering). Offered in alternate years.

SOILS 485 Soil Reclamation and Conservation
★3 (first term, 2-4s-0). A problem and seminar oriented course providing an opportunity for students to integrate past course experiences and to strengthen the concept of the total system approach to analysis of soil problems and management strategies. Includes examination and analysis of soil reclamation and/or management problems, preparation of a report or action plan and defense of it to several staff of the Department of Soil Science. Grade assigned on the basis of written report(s) and its (their) defense. Prerequisite: Four (4) Soil Science areas beyond SOILS 310.

SOILS 501 Individual Research Project
★3 (either term, 0-3s-0).Prerequisite: Consent of Department Chair.

SOILS 502 Individual Research Project
★6 (0-3s-0).Prerequisite: Consent of Department Chair.

SOILS 505 Special Topics in Soil Science
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

SOILS 510 Advanced Remote Sensing
★3 (second term, 3-0-3). Prerequisite: FOR 410.

SOILS 520 Advanced Soil Classification
★3 (second term, 3-0-3). Prerequisite: SOILS 420.

SOILS 530 Advanced Soil Ecology
★3 (first term, 3-0-3). Prerequisite: SOILS 430.

SOILS 535 Advanced Soil Biochemistry
★3 (second term, 1-2s-3). Prerequisite: SOILS 430.

SOILS 540 Advanced Soil Physics
★3 (second term, 3-0-3). Prerequisite: An introducto course in differential calculus and a course in one of t following: soil physics, soil mechanics, or hydrogeolog

SOILS 550 Advanced Soil Chemistry
★3 (second term, 3-0-3). Prerequisite: Consent of instruct

SOILS 555 Advanced Soil Mineralogy and Micromorphology
★3 (second term, 3-0-3). Prerequisite: SOILS 4 and 420.

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Arts

Faculty of Arts

1 Introductory

1.1 Members of the Faculty

1.1.1 Officers of the Faculty

ean
D Clements, DPhil

ssociate Dean, Academic Programs and ndergraduate Students
Penrod, PhD

ssociate Dean, Fine Arts and Interdisciplinary tudies
L Harris, PhD

ssociate Dean, Humanities
M Van de Pitte, PhD

ssociate Dean, Research and Graduate Students
W Kennedy, PhD

ssociate Dean, Social Sciences
Dacks, PhD

dministrative Officers
M Chooi, MMus
Dunbar, BA
M French
A Stobee, BEd
Wollum, BA

41.1.2 Anthropology

Professor and Chair
Lubell, PhD

Henry Marshall Tory Professor
MR Freeman, PhD

Professor Emeritus
HB Barclay, PhD

Professors
MI Asch, PhD
DB Beattie, PhD
AL Bryan, PhD
LM Fedigan, PhD
AD Fisher, PhD
R Gruhn, PhD
CG Hickey, PhD
HT Lewis, PhD
CE Schweger, PhD
C Urion, PhD
DE Young, PhD

Associate Professors
DH Bai, PhD
GL Forth, PhD
CR Wilson, PhD

Assistant Professors
RJ Le Blanc, PhD
N Lovell, PhD
A Weber, PhD (Canada Research Fellow)
P Willoughby, PhD (Canada Research Fellow)

Assistant Chair (Administration)
K Nicholson-Scheer

41.1.3 Art and Design

Professor and Chair
D Rochfort, PhD

Professors Emeriti
RA Davey, BA
JA Forbes, MA
HG Glyde, RCA
W Jungkind, NatDip

Professors
PF Bartl, DipAGS
BB Bentz, MFA, MDes
LD Cantine, MA
J Frascara, DipFA, Post Dip
DH Haynes, Dip ACA
P Hide, Dip AD, Post Dip
WW Jule, MFA
LJ Osborne, MFA
GS Peacock, Dip AD, Post Dip
RW Sinclair, MA

Associate Professors
VC Chan, PhD
RJ Chenier, MVA
PN Darrah, Dip FA
NO Fiertel, MFA
JV Freeman, MVA
E Ingram, MVA
J Knowlton, MA
JA Sybesma-Ironside, PhD

Assistant Professors
BJ Elliott, PhD
RJ Lamb, MPhil, PhD

41.1.4 Canadian Studies Program

Associate Professor
S Jackel, PhD

Assistant Professor
S Rowley, PhD

41.1.5 Classics

University Professor and Chair
D Fishwick, DLitt

Professors Emeriti
MW MacKenzie, PhD
EC May, PhD

Professors
RE Braun, PhD
RJ Buck, PhD
H Fracchia, PhD
KA Garbrah, Dr Phil
M Gualtieri, PhD
RM Nielsen, PhD
AM Small, DPhil
RC Smith, PhD
JR Wilson, PhD

Associate Professor
JM Lynn-George, PhD

Assistant Professor
JJ Rossiter, PhD

41.1.6 Comparative Literature

Professor and Chair
E Mozejko, PhD, FRSC

University Professor and Professor Emeritus
H Kreisel, PhD

University Professor
MV Dimic, Dip, FRSC

Professor Emeritus
J Ferraté, Lic en Let

Professors
SH Arnold, PhD
ED Blodgett, PhD, FRSC
U Margolin, PhD

Associate Professors
M Bortolussi, PhD
KSY Kao, PhD
PA Robberecht, MA

Assistant Professors
GM Lang, PhD (Canada Research Fellow)
N Rahimich, PhD (Canada Research Fellow)

41.1.7 Drama

Professor and Chair
D Barnet, RBTC

Professors Emeriti
FF Bueckert, MA
J Ogg, MA
GB Peacock, MFA
WC Seibert
JH Terfloth, PhD

Professors
B Currah
JV DeFelice, MA
C Hare, MA
DL Lovett, NDD
JH McTeague, PhD
WA Meilen, FTCL
MJ Murdock, PhD
CT Peacocke, MFA
G Perks, LGSM
JB Tarver, BFA, MA

Associate Professors
J Dix-Hart, MA
M Jendyk, LUD
J Selman, MFA

Assistant Professors
C Burnett, MFA
B Coleman, MFA
JA Hawkins, PhD
R Kilde, BA
E Moulton, BA

Professional Officer
AL Welch

Administrative Officer
L Currie, BA

41.1.8 East Asian Languages and Literatures

Professor of Political Science and Chair
SMM Qureshi, PhD

Professor
SR Munro, MA

Associate Professors
S Arntzen, PhD
YS Chen, PhD
K Kao, PhD
JS Lin, PhD
H Terakura, PhD

Assistant Professors
M Kawashima, PhD
LF Leung, PhD
K Ohta, MA

Joint Appointment with Comparative Literature
K Kao, PhD

41.1.9 Economics

Professor and Chair
ML McMillan, PhD

Professors Emeriti
RP Cirillo, MSc
WD Gainer, PhD
KL Klawe, MA
B Korda, DSc
MS Noorzoy, PhD
RA Pendergast, PhD
EH Shaffer, PhD

Professors
A Buse, PhD
P Davenport, PhD
GK Dow, PhD
KL Gupta, PhD
I Moravcik, PhD
KH Norrie, PhD
MB Percy, PhD
TL Powrie, DPhil
V Salyzyn, PhD
S Sharir, PhD
B Von Hohenbalken, DrPol
BW Wilkinson, PhD

Associate Professors
PM Boothe, PhD
BG Dahlby, PhD
NK Dastoor, PhD
JJ Delehanty, BSc
SE Drugge, PhD
AW Jenkins, PhD
BG Reid, PhD
DS West, PhD
LS Wilson, PhD

Assistant Professors
RD Beason, MA
GA Bridgeman, PhD

SK Landon, PhD
RC Lindsey, PhD
CC Nunn, MSc
DL Ryan, PhD
CE Smith, PhD
RT Smith, PhD
R Szostak, PhD
T Tsushima, PhD
Y Xu, PhD
CD Young, PhD

Joint Appointments with Business
R Mirus, PhD
RS Smith, PhD

Joint Appointment with Health Services Administration
RHM Plain, PhD

Joint Appointment with Rural Economy
TS Veeman, PhD

Administrative Officer
L Edwards, BA

41.1.10 English

Professor and Chair
MR Legris, PhD

Henry Marshall Tory Professor
I Grundy, DPhil

University Professors
JS McMaster, PhD, FRSC
JO Orrell, PhD, FRSC

Professors Emeriti
JW Bilsland, PhD
JDW Crowther, PhD
BN De Luna, PhD
AT Elder, PhD
JF Lauber, PhD
GS McCaughey, PhD
M Norman, PhD
AH Qureshi, PhD
N Page, PhD
EJ Rose, PhD
A Ryan, MA
SM Watson, PhD
W Watson, PhD
MA Whitaker, MA
AG White, PhD
R Wiebe, MA

Professors
BL Almon, PhD
RF Anderson, PhD
RF Ayling, PhD
DF Barbour, PhD
DE Bessai, PhD
CJ Bullock, PhD
PD Clements, DPhil
PA Demers, PhD
CQ Drummond, PhD
JF Forrest, PhD
RJS Grant, PhD
HA Hargreaves, PhD
RT Harrison, PhD
R Hoffpauir, PhD
DA Jackel, PhD
GD Kelly, DPhil
JA MacIntyre, PhD
RD McMaster, PhD, FRSC
RJ Merrett, PhD
RG Moyles, PhD
SC Neuman, PhD, FRSC
EW Pitcher, PhD
FL Radford, PhD
S Rees, PhD
S Rose, PhD
ML Ross, PhD
RG Siemens, PhD
SE Stambaugh, PhD
JC Stott, PhD
WG Watson, PhD
RR Wilson, PhD
L Woodbridge, PhD

Associate Professors
S Bagchee, PhD
EL Bishop, PhD
HW Connor, PhD
C Gordon-Craig, PhD
PI Hjartarson, PhD
GAF Hollingshead, PhD
RE Jones, PhD
IS MacLaren, PhD
LN McKill, PhD
JG Marino, PhD
BJ Mitchell, PhD
J Mulvihill, PhD
JM Nelson, PhD
RH Solomon, PhD
B Stovel, PhD
N Stovel, PhD
MD Wilkie, PhD

Assistant Professors
R Bowers, PhD
G Burger, DPhil
D Chisholm, DPhil
G Epp, PhD
D Gay, PhD
S Hamilton, PhD
J Hart, PhD
R McGrath, PhD
D Miall, PhD
D Read, PhD
S Reimer, PhD
G Samuel, PhD
S Slemon, PhD
G Stephenson, PhD
KL Stewart, PhD
J Wallace, PhD
J Williamson, PhD

Administrative Officer
J Denford, BA (Hons)

41.1.11 Film Studies

W Beard, PhD
M Lefebvre, MA

41.1.12 Germanic Languages

Professor and Chair
M Prokop, PhD

Professors Emeriti
E Reinhold, PhD
A Scott-Prelorentzos, PhD

Professors
RJE d'Alquen, PhD
E Egert, PhD
G Marahrens, PhD
HA Pausch, PhD

Associate Professors
CS Hale, PhD
RG Whitinger, PhD

Assistant Professor
ME Henn, PhD

41.1.13 History

Professor and Chair
DJ Hall, PhD

Professors Emeriti
J Barrington, BSc
FD Blackley, PhD
RR Hett, PhD
A Thimme, DPhil
LG Thomas, PhD

Professors
FA de Luna, PhD
OP Dickason, PhD
JA Eagle, PhD
BL Evans, PhD
JE Foster, PhD
R Hamowy, PhD
DC Johnson, PhD
WJ Jones, PhD, FRSC
HP Liebel-Weckowicz, PhD
RC Macleod, PhD
DJ Moss, DPhil
DR Owram, PhD
PE Prestwich, PhD
GA Rothrock, PhD
BM Smith, PhD
U Trumpener, PhD
HE Wilson, PhD

Associate Professors
J-P Himka, PhD
J Jay, PhD
M Katz, PhD
JL Langdon, PhD
P Lawson, PhD
DL Lightner, PhD
CS Mackinnon, PhD
EA McDougall, PhD
DC Mills, PhD
KJ Munro, PhD
CM Small, BLitt
KC Taylor, PhD
S Vinh, PhD
PL Voisey, PhD
JN Wickenden, PhD

Assistant Professors
LR Aronsen, PhD
DH Brown, PhD (Canada Research Fellow)
LB Cormack, PhD
N Ingram, PhD (Canada Research Fellow)
RJ Martin, PhD
FA Swyripa, PhD (Canada Research Fellow)

Administrative Officer
BA Yellowlees

41.1.14 Linguistics

Associate Professor and Acting Chair
JT Hogan, PhD

Professors
BL Derwing, PhD
KT Holden, PhD
LP Mos, PhD
GD Prideaux, PhD
AJ Rozsypal, PhD

Associate Professors
TM Nearey, PhD
LM Stanford, PhD

Assistant Professor
SA Rice, PhD

Adjunct Professors
MF Ferreira, PhD
TMS Priestly, PhD
BL Rochet, PhD

41.1.15 Music

Associate Professor and Chair
WP Berg, PhD

Professors Emeriti
VB Archer, DMus (Hon)
AB Crighton, DMA
LV Fisher, MMus
CE Kenneson, MMus
G Krapf, DMus (Hon)
EB Lejano, DMA
GE Lincoln, LRSM
AM Munn, Dip (Julliard)
RA Stangeland, DMA

Professors
M Bowie
HF Brauss
AJ Fisher, PhD
MD Forsyth, DMus
CE Kenneson, MMus
RN Nelson, Dip RCM (Lond)
FC Pier, DMA
R Qureshi, PhD
M Sasonkin, PhD
W Street, DMA
HH Wiens, Dip (DETMOLD)

Associate Professors
BL Harris, PhD
CO Lewis, PhD
AJ Ord, DMA
LP Ratzlaff, DMA
MT Roeder, PhD

Assistant Professors
M Giesbrecht, DMus
S Lemelin, DMA
D Olliikkala, MMus
R Troeger, DMus (Canada Research Fellow)

Joint Appointment
RJ de Frece, DMA

Librarian
J Whittle, BLS

Administrative Officer
R Williams, BMus

41.1.16 Philosophy

Associate Professor and Chair
WD Sharp, PhD

Professor Emeritus
H Tennessen, Magister

Professors
RN Bosley, PhD
AA Carlson, PhD
WE Cooper, PhD
J King-Farlow, PhD
M Matthen, PhD
FJ Pelletier, PhD
PA Schouls, PhD
RA Shiner, PhD

weedale, PhD
Van de Pitte, PhD
Van de Pitte, PhD

sociate Professors
Burch, PhD
Christensen, PhD
Hunter, PhD
nsky, PhD
MacKenzie, MLitt

istant Professors
riener, PhD
iggs, PhD

ninistrative Professional Officer
runel

.1.17 Political Science

fessor and Chair
upper, PhD

versity Professor
Green, LLD

fessors Emeriti
Davy, PhD
Engelmann, PhD

fessors
Dacks, PhD
Masson, PhD
Meekison, PhD (Vice President, Academic)
Pocklington, PhD
Pratt, PhD
M Qureshi, PhD

sociate Professors
Baird, PhD
C Carmichael, PhD
Craig, PhD
t Gilsdorf, PhD
Johnston, MA
Keating, PhD
Lejnieks, PhD
Lightbody, PhD
E Mote, PhD

sistant Professors
F Judson, PhD
Paltiel, PhD
Trimble, PhD
Urquhart, PhD

dministrative Officer
J Bell-Hiller

1.1.18 Psychology

rofessor and Chair
C Lechelt, PhD

niversity Professor
M Nelson, PhD

rofessors Emeriti
A Blanchard, PhD
Howarth, PhD
R Runquist, PhD
E Smith, PhD
Spearman, PhD
E Weckowicz, PhD

rofessors
H Beck, PhD
M Bourassa, PhD
H Cornell, PhD
V Di Lollo, PhD
F Dixon, PhD
VF Epling, PhD
S Grant, PhD
L Kuiken, PhD
W Rozeboom, PhD
G Rule, PhD
J Rule, PhD
Swartz, PhD
L Wahlsten, PhD

Associate Professors
L Bisanz, PhD
H Bisanz, PhD
F Bischof, PhD
RW Dawson, PhD
R Dobbs, PhD
E Enzle, PhD
R Friedman, PhD
D Heth, PhD
C Hoffman, PhD
M Robertson, PhD
K Sinha, PhD
L Spetch, PhD
Treit, PhD
E Walley, PhD

Assistant Professors
MF Ferreira, PhD
GM Henderson, PhD
WE Smythe, PhD (Canada Research Fellow)
CK Varnhagen, PhD (Canada Research Fellow)

Adjunct Professor
FJ Morrison, PhD

Administrative Officer
HM Scarth

Faculty Service Officer
GL Finley, MSc

41.1.19 Religious Studies

Chair
PA Schouls, PhD

Professors
PJ Cahill, STD
KD Prithipaul, PhD
M Waida, PhD
EH Waugh, PhD

Associate Professors
MI ElShoush, PhD
F Landy, DPhil

Assistant Professor
E Ben Zvi, PhD

41.1.20 Romance Languages

Associate Professor and Chair
PL Knight, DPhil

Professors Emeriti
EJH Greene, DU
M Kalinowsky, MA
PAR Monod, Doct TC
CH Moore, DU
RG Motut, PhD
D Musacchio, Doct TC

Professors
CA Bidanchon, PhD
AM Forcadas, PhD
NE Mallet, Doct TC
E Musacchio, Dott Fil
LK Penrod, PhD
AG Purdy, PhD
BL Rochet, PhD
RS Thornberry, PhD
RWF Wilcocks, PhD
RA Young, PhD

Associate Professors
JE Algeo, PhD
MG Badir, PhD
AJ Ballah, MA
V Bosley, PhD
AJ Brumlik, PhD
JA Creore, MA
PJ Dube, PhD
JM Duciaume, MA
DP Fearon, PhD
AJ Holden, MA
DJ Langdon, PhD
E Marxheimer, MA
C Potvin, PhD
PA Robberecht, MA
A Soare, PhD
J Varela, PhD
M Verdicchio, PhD

Assistant Professors
D Boccassini, PhD
M Bortolussi, PhD
D Bruce, PhD
GM Lang, PhD
RH Salerno, MA

Administrative Officers
TJ Butler, MA
JK Panteluk, BA

41.1.21 Slavic and East European Studies

Professor and Chair
TMS Priestly, PhD

Professors Emeriti
Y Slavutych, PhD
T Yedlin, PhD

Professors
RL Busch, PhD
KT Holden, PhD
E Mozejko, PhD
O Zujewskyj, PhD

Associate Professors
TR Carlton, PhD
A Hornjatkevyc, PhD
OS Ilnytzkyj, PhD
B Krawchenko, PhD
B Medwidsky, PhD
PA Rolland, PhD
AN Tumanov, PhD

Assistant Professors
A Nahachewsky, PhD
E Siemens, PhD

41.1.22 Sociology

Professor and Chair
RA Silverman, PhD

University Professor Emeritus
KJ Krotki, PhD, FRSC

Professors Emeriti
AK Davis, PhD
GK Hirabayashi, PhD
R Jung, PhD
G Nettler, PhD, FRSC

Professors
BR Abu-Laban, PhD
SM Abu-Laban, PhD
JW Gartrell, PhD
JC Hackler, PhD
WA Harrell, PhD
TF Hartnagel, PhD
LA Hayduk, PhD
W Hetherington, PhD
CW Hobart, PhD
GK Jarvis, PhD
LW Kennedy, PhD
P Krishnan, PhD
LE Larson, PhD
GS Lowe, PhD
AJ Matejko, PhD
SA McDaniel, PhD
WW McVey, Jr., PhD
H Northcott, PhD
RS Pannu, PhD
WD Pierce, PhD
D Sayer, PhD
RA Silverman, PhD
EL Snider, PhD
N Stehr, PhD, FRSC
RA Sydie, PhD

Associate Professors
KR Cunningham, BA
MW Gillespie, PhD
S Kent, PhD
H Krahn, PhD
GD Laxer, PhD
WA Meloff, PhD
RA Morrow, PhD
PA Saram, PhD
F Trovato, PhD
JR Young, MEd

Assistant Professors
H Boritch, PhD
JJ Creechan, PhD
JA Golec, PhD

Adjunct
SC Newman, MD

Administrative Officer
PM Jarvis

Service Officers
NM Lalu, PhD
N Mehra, PhD
KR Spencer, MA

41.1.23 Women's Studies

Coordinator and Assistant Professor
W Tomm, PhD

41.1.24 Supporting Services: Language Laboratories

Director
A Ballah, MA

Coordinator (Administrative and Professional Officer)

41.2 General Information

The Faculty of Arts

The Faculty of Arts is, with the Faculty of Science, the oldest established faculty at the University of Alberta, with instruction in Arts and Science having

begun in 1908. It offers instruction in the humanities, the social sciences, and the fine arts.

The Faculty offers a variety of programs leading to the degree of BA (Honors), BA (Special), BA (Canadian Studies), BA (East Asian Studies), BA (Criminology), BA (General) [a three-year program], BA [a four-year program]. Regulations governing programs will be found in §43.

In addition, the Faculty offers specialized degrees in Art and Design, in Drama (Bachelor of Fine Arts) described in §§43.1.12 and 43.1.13, and in Music (Bachelor of Music), described in §43.1.14, and BMus (Honors), described in §43.1.15.

Faculté Saint-Jean

A number of Arts courses are also offered in French at Faculté Saint-Jean. Faculté Saint-Jean was founded in 1908 and became an integral part of the University in 1970. Faculté Saint-Jean allows students of French extraction to pursue their university studies in a French environment and gives other students the opportunity to benefit from this environment. The University thus hopes to foster French culture in Alberta and to allow more students to master the two official languages of Canada. For further information, consult §181 to §184 of this Calendar.

41.3 Important Deadlines

(1) **Admission to the Faculty of Arts:**
Refer to §14.2.
Note A: Students are not normally admitted in January.
Note B: Criminology, BFA, and BMus applicants must also submit references, or a portfolio, or apply for an audition as specified in §§14.2 and 43.1.6 or 43.1.12 or 43.1.13 or 43.1.14 of this Calendar.

(2) **Admission to Music Courses**:
Students seeking admission to music "performance" courses must apply for audition by August 1st.

(3) **Transfer to the Faculty of Arts from another faculty in the University:**
Refer to §§14.2 and 42.1(4).
First year students who registered in September in another faculty may not transfer for January admission, but may complete an Application for Readmission or On-Campus Transfer form to transfer to the Faculty of Arts for a subsequent session.
Other students transferring at mid-year (January) can be accepted only under special circumstances. Even though formal transfer cannot be approved, changes in program can sometimes be arranged to maximize transferable credits for later use.

(4) **Application to Receive a Degree:**
At Fall Convocation: **August 30.** At Spring Convocation: **February 1st.**

(5) **Other Important Deadlines:**
Refer to §11.

42 Faculty Regulations

The regulations of the Faculty of Arts are to be considered in conjunction with the University Regulations and Information for Students §11 to §19, inclusive, of this Calendar.

42.1 Admission and Transfer

The normal admission requirements of the Faculty of Arts will be found in §13.4 of this Calendar. Additional general admission information can be found in §13.4.18 to §13.6.4 of this Calendar. Specific admission information for the BA (Criminology) program is found in §43.1.6; for BA (Honors) see §43.1.2 and §43.2 to §43.27.

(1) **Non-Matriculated Applicants:** Refer to §13.8 of this Calendar for admission criteria. Following admission as a non-matriculated applicant, successful completion of the normal first year of the BA program will stand in lieu of matriculation. Applicants who fail half, or more than half, of the five first-year courses, will be required to withdraw from the Faculty of Arts, and must complete matriculation requirements before being considered for readmission.

(2) **Language Requirement:** Matriculated students admitted to any program in the Faculty of Arts, other than a BFA program, must present senior matriculation standing or equivalent in a language other than English.

Non-matriculated applicants should refer to §13.8 of this Calendar.

Note: Students having a matriculate course, or the equivalent, in a language other than English may use a 100-level course in a different language other than English as the equivalent of a first-year university course.

(3) **English Language Proficiency:** For details see §13.2.2 of this Calendar.

(4) **Transfer from other faculties and other Post-Secondary Institutions:**

a. Students who do not meet the specific matriculation subject requirements as outlined in Section 13.4.2 of the Calendar will not be considered for admission to the Faculty of Arts. Any deficiencies in matriculation subjects must be rectified prior to admission.

b. Students registered in another faculty at the University of Alberta or in another post-secondary institution may apply to transfer to the Faculty of Arts provided they have a satisfactory standing by the standards of their current program and provided they have a CGPA of at least 5.5 on all university or university transfer courses attempted in their current program. Advanced standing will be given for completed course work which is applicable to the degree program. Credit will not normally be given for course work of a professional nature.

c. Applicants who lack the minimum 70% average on five (5) required high school courses will not be considered until they have completed 30 units of course weight transferable to a BA program.

d. Students who have previously attended this Faculty and who have been required to withdraw will not be considered for readmission until they have attended another post-secondary institution or another faculty and successfully completed at least 30 units of course weight transferable to a BA program. These credits must not include any courses equivalent to ones previously passed at this University.

(5) **Transfer Within the Faculty of Arts:** Students may transfer from one program to another within the Faculty of Arts at the beginning of the regular academic session provided the entrance requirements for the proposed program are met. After transfer students must meet all requirements for graduation in the new program. For further details see the sections dealing with each program.

(6) **Preprofessional Programs:** There are no preprofessional programs, as such, in the Faculty of Arts. Students admitted to a Faculty of Arts program who plan to transfer later to a professional program in another faculty must satisfy Faculty of Arts requirements while they are registered in this faculty. Students planning to transfer should consult the Calendar or Counsellors of the relevant Faculty for advice concerning courses which satisfy the requirements of both programs.

(7) **Residence requirements:** Students taking a 120 units of course weight program in the Faculty of Arts must have credit for at least 60 units of course weight offered by the University of Alberta. Also refer to §16.2 of this Calendar.

(8) **Letter of Permission:** Following initial admission, students are expected to complete all requirements at the University of Alberta. However, under academically justifiable special circumstances, students may apply to the Dean for permission to take courses at another institution for application to their program here, provided:

a. they are bona fide degree program students of the Faculty of Arts;

b. they have already completed a minimum of 30 units of course weight of their progam at the University of Alberta;

c. they present "Satisfactory" academic standing (i.e. a CGPA of 5.5 or greater).

Approval will NOT however, be granted for requests to take any of the final 30 units of course weight at another institution, or where the student has already received the maximum allowable transfer courses (i.e. 60 units of course weight). Requests to take a senior course in the student's major subject of concentration will be considered only with the written approval of the department adviser. Note that there is no obligation to grant transfer credit unless prior permission has been obtained. Qualified students should contact the Student Programs Office, 6th Floor, Humanities Centre, to obtain the necessary forms.

(9) **Readmission after Requirement to Withdra**
Refer to §42.6(5) for details.
Readmission of non-matriculated applicar
after a failure in half, or more than half, of the
first-year units of course weight will be consider
only after matriculation requirements have be
completed.

(10) **Visiting Students:** Students from other universiti
or colleges are eligible to be considered for admi
sion to the Faculty of Arts as Visiting Studen
provided:

a. they are bona fide students at their hon
institution;

b. their home institution provides a Letter of Pe
mission;

c. they have completed a minimum of 30 units
course weight at the home institution;

d. their academic record shows Satisfactory Standin

42.2 Registration and Changes of Registration

Deadlines are strictly adhered to. See §14.2 of thi
Calendar.
For further information refer to §15.1 of this Calen
dar.

(1) **Student Responsibility:** Students are responsibl
for the completeness and accuracy of their registra
tion and for ensuring their programs are in accord
ance with degree specifications. Please read th
Calendar carefully and if you are in doubt about th
regulations pertaining to your program, please con
sult the Student Programs Office.

(2) **Failure to "drop" a course:** Students who do no
formally withdraw from a course but who are absen
from the final examination without excuse (see
§16.4.2 of this Calendar) will be given a mark o
zero (0) on the final examination. The final grade ir
the course will then be determined by combining the
appropriately weighted term grade and the assigned
zero in the final examination, the mathematical
result rounded to the lowest whole number. Stu-
dents who register in a course but do not attend and
do not formally withdraw will receive a grade of 1.
Students who withdraw from a course after
the deadline date and who thereby receive a grade
of withdraw-failing (WF) will receive a grade of 1.
Also refer to §16.4 and §42.6 of this Calendar.

(3) **Course Load Requirement:** Normally, students in
the Faculty of Arts take a full course load, i.e. 30
units of course weight during the academic session.
In exceptional circumstances, and following com-
pletion of the first 30 units of course weight, accel-
eration to the maximum of 36 units of course weight
per academic session may be permitted by the
Major department.

42.3 Time Limit for Completing the BA (General) and BA (Special) Degrees

Effective the first academic session of 1986-87 (i.e. Spring Session) the Faculty of Arts introduced the first year of a four-year BA program phasing out the three-year BA (General) and the four-year BA (Special).

Students at the University of Alberta or at Alberta colleges with which the University has transfer agreements, who entered the three-year BA (General) or the four-year BA (Special) prior to May, 1986 may continue under the program requirements then in effect. Such students must complete the BA (General) or BA (Special) Degree requirements on or before April 30, 1994.

Students holding a University of Alberta BA (General) degree may qualify for a Certificate of Equivalence as listed in §43.1.8, provided the requirements are completed on or before April 30, 1994.

42.4 Classification and Selection of Courses

The courses which are requirements of one program only are listed under the particular degree or certificate program in §43 of this Calendar.

Course Definitions

a. **Units of Course Weight:** A unit of course weight is an indication of the instructional credit assigned to a course and is designated by the ★ symbol after the course number and name. Units of course weight are used to form a part of the degree requirements and are also used in calculating a student's Grade Point Average (GPA).

b. **Full-Session Course:** A full-session course means a course with a unit of course weight of ★6 that normally extends over two consectuive University terms.

c. **Half-Session Course:** A half-session course means a course with a unit of course weight of ★3 that normally extends over one University term.

d. **Junior Course:** Those courses offered by the Faculty of Arts numbered 199 or lower.

e. **Normal Course Load:** A normal full academic course load is 30 units of course weight during the winter session.

f. **Options:** The term "option", where it appears in programs, means an Arts or Science course freely chosen by the student provided the necessary prerequisite requirements have been met. An approved option in all programs other than the BA (General) is an option approved by the department directing the program of the students concerned. Also refer to §42.4(5) and 42.4(6)of this Calendar.

g. **Senior Courses:** Those courses numbered 200 to 599.

h. **Courses extra to the Degree:** Courses taken during a student's tenure in the Faculty which are not being used for degree credit are known as courses extra to the degree.

Junior English: Students admitted to any program in the Faculty of Arts, other than the BFA Drama Acting, must successfully complete six units of course weight in English at the junior level. ENGL 101 is required for the BA degree program.

First Year: Normally, first year requirements in all programs include a junior English course. Other first year requirements are listed under the particular program in §43 of this Calendar.

Diversification Requirements: Students who began a BA (General), BA (Special), BA (Canadian Studies) program in September 1979 and thereafter, and those who re-enroll in these programs after September 1983, are required to include a course from each of the following categories in their program: Laboratory Science, Fine Arts, Humanities, and Social Sciences. Note that the required junior English course does not satisfy the "Humanities" requirement. For the purpose of the diversification requirement, courses offered by the Faculty of Arts and Faculty of Science are categorized as follows:

a. **Laboratory Science courses:** All laboratory courses offered by the Faculty of Science, which have no less than the standard complement of lecture and laboratory hours, i.e., (3-0-3), plus ANTHR 390.

b. **Fine Arts:** CLASS 367/368; all interdisciplinary film courses; and all courses offered by the Departments of Art and Design, Drama, and Music.

c. **Humanities:** Courses offered in the following disciplines: Arabic; Bulgarian; Chinese; Christian Theology; CLASS 102, 160, 201, 357, 359, 360, 375, 379, 380, 481, 482, 483, 484, 485, 486, 498, 499; Christian Theology; Comparative Literature; English (the junior courses do not meet the requirement); French and French-Canadian; German; Greek; Hebrew; Hispanic Languages and Literatures; History (also classified under social sciences, but can only be counted in one or the other category); Italian; Japanese; Latin; Norwegian; Philosophy; Polish; Religious Studies (except courses listed under social sciences); Russian; Scandinavian; Slavics; Swedish; Ukrainian.

d. **Social Sciences:** Courses offered in the following disciplines: Anthropology; Classics (except courses listed under Fine Arts and Humanities); Economics; Geography (except courses listed in the Faculty of Science offerings); GERM 306, 307, 406, 407; History (also listed under Humanities, see note above); INT D 347, 350, 393, 394, 443, 444, 445, 475, 478, Linguistics; POLSH 498; Political Science; Psychology (except courses listed in the Faculty of Science offerings); RELIG 375, 462; Romance Linguistics; RUSS 453, 454, 498, 511, 512; SLAV 301, 302, 403, 420, 421, 518, 522, 561, 562, 650; Sociology; UKR 453, 454, 498, 511, 517.

(5) **Free Options:** (courses from outside the Faculties of Arts and Science): Students registered in programs in the Faculty of Arts will normally select their courses from those set out in the Arts and Science sections of this Calendar including the Arts and Science courses in the Faculté Saint Jean listings in this Calendar. Students registered in any program other than the BFA, BMus, and BMus Honors may take up to 12 units of course weight (as options) in faculties other than Arts and Science. In exceptional circumstances a further six units of course weight may be taken with approval of the Dean. These courses, when taken for credit toward the Arts degree, are subject to the following restrictions.

a. The courses may not be used to satisfy the requirements of a junior English course or the requirements set forth under §42.4(4) above.

b. The courses may not be used to meet the requirements of a subject of concentration.

c. Their inclusion in a program is subject to Faculty limitations on the number of junior courses and non-Arts courses that may be offered for credit.

d. The courses must, in each case, carry a minimum unit of course weight of three (★3). Two courses in the same faculty, each with a weight of ★1.5, will be accepted as the equivalent of one course with a weight of ★3.

(6) **Prohibited Courses**: Some courses duplicate, in central content, courses in the Faculties of Arts and Science. Therefore, a student enrolled in a Faculty of Arts program may not register, for degree credit, in the following prohibited courses:

AG EC 315 (ECON 395)
AG EC 400 (Economics*)
AG EC 416 (ECON 396)
CL TX 150 (Art and Design*)
CL TX 151 (Art and Design*)
EDACT 235 (Art and Design*)
EDACT 274 (CMPUT 161)
EDFDN 456 (PHIL 280, 350, 450)
EDMDA 465 (Art and Design*)
EDMDA 467 (Art and Design*)
EDPSY 163 (PSYCO 223)
EDPSY 371 (PSYCO 368, 469)
EDPSY 469 (PSYCO 223)
EDPSY 473 (PSYCO 463)
ENCMP 100 (Computing Science*)
FAM 110 (SOC 271)
FAM 211 (SOC 271)
FAM 215 (SOC 271)
INT D 365 (ECON 365)
MGTSC 432 (CMPUT 291)
R SOC 415 (SOC 417/515)
* Check course with the department.

(7) **Restricted Enrollment Courses:** The Faculty of Arts strives to accommodate all students wishing to enroll in a given course when it is appropriate to their program. However, classes in some courses must, for academic reasons, be restricted in size. Such courses will be labelled 'restricted enrollment' courses in the timetable. If such a course is found to be oversubscribed, students whose programs do not require that course may be required to delete it from their registration.

(8) **Junior Courses:** In those programs requiring diversifications normally no more than 42 units of course weight at the 100-level may be taken for degree credit. In those programs requiring core courses, the 100-level maximum is 48 units of course weight. In no case will this limit be extended to permit students to include a 'free' option at the junior level.

(9) **Subjects of Concentration:** Courses offered in the department and/or subjects listed below will be accepted by the Faculty of Arts as a subject of concentration unless otherwise indicated in the "Programs of Study" section of the respective departments (§§43.2-43.27): Anthropology; Arabic; Art, Art History, Design; Chinese; Classics (Ancient History, Art, Cartography, Classical Literature in Translation); Comparative Literature; Drama; East European and Soviet Studies; Economics; English; Film Studies; French, French-Canadian; Geography; German; Greek; Hebrew; History; Italian; Japanese; Latin; Linguistics; Mathematics; Music; Philosophy; Polish; Political Science; Psychology; Religious Studies; Romance Linguistics; Russian; Scandinavian; Slavics; Sociology; Spanish; Ukrainian;Women's Studies.

In the minor subject for the BA (General) and BA (Special) degree programs only, the courses listed above, plus courses offered by the Faculty of Science, plus the following science combinations are permissible: Mathematics/Statistics; Biology/Zoology/Microbiology/Entomology/Botany/Genetics; Astronomy/Physics; Chemistry/Biochemistry; Geography/Cartography/Meteorology. The science combinations require a minimum of 24 units of course weight, 12 of which must be at the senior level.

For additional information and advice consult the "Programs of Study" section of the respective departments (§§43.2-43.27).

(10) **Options:** In the BA (General), BA (Special) and Certificate of Equivalence programs no more than 24 units of course weight may be taken for credit in a single subject other than the major or minor or second subject. For courses not open to students for credit, see §42.4(5) and 42.4(6).

42.5 Grades and Credits

42.5.1 Matriculation Equivalency Assessment

Students who already have sufficient command of a language other than English (LOE) may be able to clear an admission deficiency in an LOE prior to admission. Inquiries may be made to the Student Programs Office.

42.5.2 Advanced Placement

Students who do not hold credit in prerequisite courses, but who feel they have sufficient knowledge, may be permitted registration in a senior-level course upon successful completion of a placement test. For further particulars contact the department offering the senior-level course. These tests are normally conducted for language courses. Also refer to §13.9.4 of this Calendar.

42.5.3 Transfer of Credit

Refer to §§13.9.3, 42.1(5), 42.1(6), 42.1(7) and 42.1(8) of this Calendar.

42.5.4 Credit by Special Assessment

Note: See also §13.9.5.

Students admitted to a degree program in the Faculty of Arts, may receive degree credit in a limited number of courses for knowledge or skill obtained in a non-university context or by private study. "Non-university context" may include work completed at institutions not accredited for degree purposes or may refer to periods of work experience that bear relationship to university courses. The following conditions apply:

(1) **Non-university context:** Students may apply for credit on this basis, following admission to a degree program.

(2) **Private study:** Students who have been admitted to a degree program and have successfully completed at least one academic year of work (24 or 30 units of course weight) may apply for credit on this basis.

(3) **Number of courses allowed:** Normally, only 12 units of course weight obtained by special assessment may be applied to a three-year degree program in the Faculty of Arts, and 18 units of course weight to a four-year degree program. In exceptional circumstances on the recommendation of a department chair, the Dean may permit additional credits by special assessment.

(4) **Limitations:**

a. Students seeking credit in a prerequisite to a course in which advanced placement has been given, must make application for credit by special assessment no later than the last day for course registration in the term in which the advanced course is being taken and must complete the requirements for assessment within the prescribed three months.

b. Except under the special circumstances specified in (3) above, the number of attempts to obtain credit by special assessment is restricted to a maximum of 18 units of course weight.

Note: This limits the number of courses that may be challenged, regardless of results.

c. Native speakers and readers of Chinese and Japanese are not allowed to challenge the language courses designed for non-native learners. Furthermore, CHINA 211/212 are not open for challenge by native speakers of Chinese.

(5) **Timing of assessments (deadlines):** The deadline for completion of the examination or assessment is three months from the date of application for credit by special assessment. Unless there are extenuating circumstances, students who fail to complete assessment requirements by the specified deadline will be considered to have cancelled their application and will have to re-apply should they wish to complete that assessment. (See (4) above).

(6) **Courses not accepted:** Graduate courses and Honors courses (i.e., those open only to Honors students and specified as such in the Calendar) and normally "100-level" language courses (ie. matriculation equivalent) and courses previously audited cannot be attempted by Special Assessment.

(7) **Transfer of "credit by special assessment":** Students who have obtained credits by special assessment (or similar means) while enrolled in another university, college, faculty, or school, will be given advance credit in such courses only to the extent that the Faculty of Arts accepts such courses in its degree programs. [see also (3) above]

(8) **Grades assigned to special assessment courses:** In a course attempted by special assessment, the results will be recorded, either as a grade point or pass/fail according to the practice in the regular course. Students may not appeal the results in a course attempted by special assessment.

(9) **Failure:** A course attempted by special assessment and failed, will be recorded on the transcript of the students concerned and will be computed into their academic record.

(10) **Fee**: A fee of $113.00 per three or six units of course weight will be assessed and must be paid before the department concerned undertakes the special assessment. The amount of this fee is subject to change.

42.5.5 Grade of 3

The regulation in place prior to September 1986 concerning the grade of 3 will continue to apply to a course completed prior to September 1986 in which students then registered in the Faculty of Arts program received that grade. Also refer to §16.4 of this Calendar.

42.5.6 Academic Record

Students should be aware that their academic record (i.e., transcript) is a continuing one and that all matters relating to courses, grades, academic standing, probation, etc., will permanently appear on the academic record.

42.6 Academic Standing

(1) Academic standing is assessed on the basis of a cumulative grade-point average (CGPA). Students are expected to maintain a 5.5 minimum CGPA. Students who do not maintain this level of academic performance may be permitted to continue under academic warning or may be required to withdraw.

A review of academic performance is conducted for each student at the end of winter session, covering the previous calendar year's work.

The assignment and re-assignment of academic standing is based on students' performance in a minimum of 12 units of course weight. If, at the time of review, students have attempted fewer than 12 units of course weight since the last assignment of a category of academic standing, the review is deferred and the academic standing assigned at the last review remains in effect until the next review.

(2) **Terms Used in Assessing Academic Standing:**

a. **Grade point average (GPA):** Grade point average (GPA) is a sessional measure of academic performance. Rules for the computation of the GPA are listed in §16.4(5).

b. **Cumulative Grade Point Average (CGPA):** The cumulative grade point average (CGPA) is a measure of academic performance obtained by computing a grade-point average for all sessions attended since Spring 1989 using the computational rules in §16.4(5).

The GPA is printed on the University transcript. Both averages, the GPA and CGPA, are printed on the Statement of Results at the end of each session.

c. **Categories of Academic Standing:** There are three categories of academic standing which are determined for each student on the basis of the CGPA:

1) Satisfactory Standing: a CGPA of 5.5 and above.

2) Marginal Standing: a CGPA between 4.5 and 5.4 inclusive.

3) Unsatisfactory Standing: a CGPA of 4.4 and below.

(3) **Application of Academic Standing:**

a. **Satisfactory Standing (CGPA 5.5 and above):** Students who maintain a satisfactory standing are permitted to continue their studies in the Faculty of Arts subject to meeting the specific requirements of their degree program and the general requirements of the University of Alberta.

b. **Marginal Standing (CGPA 4.5 to 5.4 inclusive):** Students receiving the first assessment of marginal standing are permitted to continue, under academic warning, until the next assignment of academic standing in order to raise the CGPA to 5.5 or higher, provided their specific degree requirements and the general requirements of the University of Alberta are also met. Such students who succeed in raising their CGPA to at least 5.5 may continue their studies with satisfactory standing; but if their CGPA drops below 5.5 in a subsequent review students are required to withdraw.

Students under academic warning who fail to raise their CGPA to at least 5.5 by the next assignment of academic standing are, with one exception, required to withdraw. The exception to the requirement to withdraw is as follows: Students who do not raise their CGPA to at least 5.5 by the next assignment of academic standing but who, during the same period, achieve an average of at least 6.0 on all courses attempted will be permitted to continue under academic warning. Continuation over subsequent review periods is permitted until the CGPA is raised to at least 5.5, as long as the minimum 6.0 average is maintained in each subsequent review period.

c. **Unsatisfactory Standing (CGPA 4.4 and below):** Students receiving an unsatisfactory standing are required to withdraw from the Faculty of Arts.

(4) **Requirement to Withdraw:** In addition to the above, if the average obtained in any review period, on a minimum of 12 units of course weight, falls below 4.5, students are required to withdraw even if their CGPA is 5.5 or higher.

Courses taken during this period of review which resulted in the requirement to withdraw are retained for credit only if a grade of 4 or higher was achieved. Students who are required to withdraw from the Faculty at the end of the Winter Session cannot register for the following Intersession. Students who register for Intersession prior to the requirement to withdraw will have their registration cancelled without penalty.

(5) **Readmission After a Requirement to Withdraw:** Students required to withdraw from the Faculy of Arts may be considered for readmission after successfully completing with satisfactory standing 30 transferable units of course weight at another recognized post-secondary institution. Such application will be subject to the same rules as all other applications from the same post-secondary institution.

(6) **Extension to the Graduating Year:** Students who have completed at least 120 units of course weight but who do not meet graduation and continuation requirements in their program of study may be allowed to complete one further Winter Session of study in order to meet graduation requirements. If graduation requirements are not met within the session, students will be required to withdraw.

(7) **Further Regulations:** Additional requirements concerning academic standing may pertain to the specific program pursued within the Faculty of Arts. These can be found in §43. Regulations concerning First-Class Standing are found in §16.6 and in §43 under specific programs.

42.7 Reexamination

(1) Faculty of Arts undergaduate students may be p mitted reexamination provided that:

a. They have written the final examination in course.

b. Their overall GPA for the academic session 5.5 or greater.

c. The weight of the final exam is 40 percent greater, as originally scheduled for the class a whole.

d. The Dean of Arts, in consultation with the Ch of the Department offering the course, indicat that the student has a high probability of su cess in taking a reexamination.

e. Only one failed course (three or six units course weight) per Winter Session is reexamine

f. Only one reexamination during a student's p riod of academic probation is granted.

(2) If a reexamination is approved, the following pc cies apply:

a. The reexamination will have the same percei age value as the original final examination.

b. The reexamination mark will replace the ori nal examination mark in determining the fir grade in the course.

(3) Students requesting a reexamination must follc the procedures detailed in §16.5.4 of this Calenda

42.8 Graduation

(1) **Application:** Students wishing to receive a Facul of Arts degree or certificate at an upcoming conv cation must obtain an Application for Degree for from the Faculty Office and submit it in accordanc with the deadlines specified in §41.3(4) of th Calendar.

(2) **Degree and Certificate Requirements:** These r quirements vary from program to program with the Faculty of Arts, and are therefore given, togeth with the details of the relevant program, in §43 this Calendar.

(3) **Degrees with Distinction and First Class Honor** For regulations concerning the awarding of degree with Distinction, see the requirements for the particul degree program set out in §43 of this Calendar. Fc regulations concerning the awarding of First-Clas Honors to students graduating with a Bachelor Arts degree with Honors, see §43.1.2(3)(k) of thi Calendar.

42.9 Appeals

Students who wish to appeal a ruling affecting the academic standing should direct their appeal in the firs instance to the Associate Dean for Academic Program and Undergraduate Students. Recourse is then avail able to the Faculty of Arts Academic Appeals Committe and the General Faculties Council Academic Appeal Committee, in that order. Further information on suc appeals is available in §16.8 of this Calendar.

Appeals regarding students' standing in a particula course should first be directed to the instructor con cerned. Frequently the issue can be resolved at thi level. If not, the appeal may then be addressed to the Chair of the Department in which the course is being offered. Final recourse is available to the Faculty of Arts Executive Committee which acts at the Faculty's Aca demic Appeals Committee. See §16.5.3(2) of this Calen dar for reappraisal deadlines.

Copies of grade appeal and academic appeal pro cedures and regulations are available from the Studen Programs Office, Faculty of Arts.

42.10 Academic Offences

A breach of the Code of Student Behavior, for example plagiarism or cheating, may result in penalties being imposed. For further information refer to §19 of this Calendar.

Programs of Study

.1 The Degrees of BA, BFA and BMus

.1.1 The Degree of BA (Degree Code AR20)

The general BA degree program is designed to vide kinds of knowledge that use an intellectual proach leading to critical judgement, while producing gible skills including especially proficiency in written d oral communication.

The BA Degree

The BA degree enables students, under the guid-ce of the department of their choice, to obtain a ersified education with specialization in one particular d.

Duration: The BA degree is a program of 120 units of course weight . Students must secure credit in a minimum of 66 units of course weight in courses offered by the Faculty of Arts. Students will normally complete 30 units of course weight in each academic session and will normally complete the program in four academic calendar years.

) **Course load requirements:** Refer to §42.2(3) of this Calendar.

) **Residence Requirements:** Refer to §42.1(8) of this Calendar.

. Curriculum

) **First Year:** Each year consists of 30 units of course weight credited to the program. Within the first 30 units of course weight students are strongly advised to complete junior courses from the core program including ENGL 101.

To prepare for the Major, students should enroll if possible in a course in the Major Subject in first year. Students in the BA degree should seek advice and program approval from the adviser in the department of their major concentration.

2) **Compulsory Course Requirements:** Students must successfully complete 54 units of course weight in the core program, a major subject of concentration, and a second subject as well as a Canadian Content Coordinate course as part of the 120 units-of-course-weight requirement.

3) **Core Program Requirements:** The core program requirements include 54 units of course weight:

12 units of course weight from Natural Sciences, Formal Studies, and Science and Technology, consisting of the following:

Natural Sciences (★6)
Formal Studies (★3)
and
Natural Sciences (★3) or
Formal Studies (★3) or
Science and Technology (★3)
ENGL 101(★6)
One language other than English (★6)
Humanities Group A (★6)
Humanities Group B (★6)
Social Sciences Group A (★6)
Social Sciences Group B (★6)
Fine Arts (★6)

The Core Requirements are designed to give the foundations of a Liberal Arts education and students are strongly advised to complete the Core in the first two years of their programs.

a. **Language other than English (LOE):** The core program requirement of a Language other than English consists of six units of course weight at the 100-level or above in a language other than English. Students who decide to take an LOE in which they matriculated will not be given credit for courses numbered 100-149 in that language; these are for beginners only.

Language courses which do not offer as their goal the acquisition of a language other than English, e.g., those dealing with literature in translation, will not fulfill the LOE requirement. For a list of courses that are **not** acceptable refer to §43.1.1(III).

b. **Humanities Groups A and B:** Refer to §43.1.1(III).

c. **Social Sciences Group A:** Refer to §43.1.1(III).

d. **Social Sciences Group B:** Refer to §43.1.1(III).

e. **Fine Arts:** Refer to §43.1.1(III).

f. **Natural Sciences, Formal Studies, and Science and Technology:** Refer to §43.1.1(III).

(4) **Major Subject:** Students are required to have a major subject of concentration consisting of a minimum of 30 units of course weight and a maximum of 42 units of course weight. Courses must be at the 200-level or above; 12 units of course weight must be at the 400-level.

Courses in the major subject of concentration at the senior level taken as part of the core program requirements must be counted toward the major. Students must declare their major subject of concentration to the Student Programs Office following the accumulation of the 60th unit of course wieght of their BA program.

See below for the special conditions applying only to Language Majors taking two or more languages other than English.

The Faculty of Arts will accept courses offered in the departments and/or subjects listed in §42.4(9) as a major subject of concentration.

Approved subject combinations are found in the department listings in §43 of this Calendar and advice is available from the respective department advisers.

(5) **Second Subject:** Students are required to have at least six 400-level units of course weight in an approved subject outside the major subject of concentration. Some departments require more than six units of course weight; see §43.2 onwards.

(6) **Canadian Content Coordinate:** Students' programs must include at least six units of course weight from an approved list of Canadian-content courses.

Courses taken to satisfy the major subject of concentration or the second subject may also be used to satisfy the Canadian Content Coordinate Requirement, provided such courses are listed in §43.1.1(III) (Classification and Selection of Courses: Canadian Content Coordinate Requirement).

(7) **Junior Courses:** Students are strongly advised to complete 30 units of course weight at the junior level before registering in senior-level courses. No more than 48 junior (100-level) units of course weight are permitted for credit to the program.

(8) **Language Majors:** The following conditions apply only to Language Majors taking two or more languages other than English:

a. Students majoring in languages other than English shall be permitted to include two or more languages in the same department in their Major Concentration.

b. Students majoring in languages other than English may take two languages other than English in the first year, deferring one First-Year Requirement in order to do so. The requirement of ENGL 101 should not be deferred for this purpose.

c. Students majoring in languages other than English may count towards the Major Concentration courses below the 200-level in a second or third language other than English taken in the same department (and in the principal language of the Major where that language is not readily available at the matriculation level in Alberta schools). Students majoring in two or more languages other than English in the same department may increase the maximum number of units of course weight in the Major to 54 (including permitted additional junior-level courses).

(9) **Prohibited courses:** For courses not open to students for credit see §42.4(6) of this Calendar.

(10) **Courses in Other Faculties**: A maximum of 12 units of course weight may be taken outside the Faculties of Arts and Science as long as they do not duplicate courses already offeredy by these two Faculties (see §42.4(6). Certain courses offered by the School of Native Studies may be counted as Arts courses (see §43.18).

(11) **Interdisciplinary (INT D) Courses**: INT D courses may be used towards the subjects of concentration, or they may be used as options. Unless otherwise indicated in the course description, an INT D course may be applied toward either the major or the second subject if it appears under the department's course listings in §44.1-44.46.

Note: that six units of course weight at the 400-level in INT D cannot constitute a second subject in the BA (AR 20) program. Normally, a maximum of three units of course weight at the 400-level in INT D may be applied towards the second subject requirement, unless otherwise approved by the department.

III. Classification and Selection of Courses

Language Other than English (LOE)

The following courses do not fulfill the LOE requirement:

Classics:
All 100-400 level Classics courses (NB Latin and Greek courses do fulfill the requirement)

East Asian Languages and Literatures:
CHINA 225: Calligraphy I
CHINA 226: Calligraphy II
CHINA 230: Heritage of China
CHINA 323: Early Literature in English Translation I
CHINA 324: Early Literature in English Translation II
CHINA 327: Modern Literature in English Translation I
CHINA 328: Modern Literature in English Translation II
JAPAN 225: Calligraphy and the History of the Japanese Writing System I
JAPAN 226: Calligraphy and the History of the Japanese Writing System II
JAPAN 321: Early Japanese Literature in Translation
JAPAN 322: Modern Japanese Literature in Translation
JAPAN 415: Haiku and the Japanese Poetic Tradition
JAPAN 416: Japanese Theatre from No to the Avante-Garde
JAPAN 417: Women's Literature in Japan

Germanic Languages:
GERM 171: Introduction to German Linguistics and Literature
GERM 221: German Prose in English Translation
GERM 222: German Drama in English Translation
GERM 306: German-English Contrastive Phonology
GERM 307: German-English Contrastive Grammar: The Verbal System
INT D 350: Contemporary Germany: Political and Economic Aspects
INT D 351: Contemporary Germany: Geographical and Cultural Aspects
SCAND 175: Introduction to Scandinavian Language, Literature
SCAND 340: Old Norse Sagas and Mythology
SCAND 345: Literature, Culture and Civilization from the Reformation to the 20th Century
SCAND 351: Modern Norwegian Literature in English
SCAND 352: Modern Danish and Swedish Literature in English

Romance Languages:
FREN 317: Commercial French
FREN 318: Legal French
FREN 390: Introduction to Children's Literature in French
ITAL 350: Italian Literature in English Translation
SPAN 360: Hispanic Literature in English Translation
Romance Linguistics: All courses

Slavic and East European Studies:
SLAV 301: Introduction to the Slavic Languages I
SLAV 302: Introduction to the Slavic Languages II
RUSS 320: Masterpieces of Russian Literature (in translation)
RUSS 321: Twentieth-Century Russian Literature (in translation)
RUSS 323: Tolstoy and Dostoevsky (in translation)
RUSS 326: Russian Culture
UKR 320: Masterpieces of Ukrainian Literature (in translation)
UKR 326: Ukrainian Culture
All Slavic and East European Studies INT D course

Humanities Groups A and B

Note: See full Calendar listings for complete course descriptions and requirements:

Group A
One of the following:
CLASS 110/HIST 110: Early World History I/Early World History II (★3/★3)
C LIT 100 World Literature (★6)
HIST 120: World History since the Eighteenth Century (★6)
PHIL 140: Introduction to Western Philosophy (★6)

Group B
CLASS 110/HIST 110, C LIT 100, HIST 120 or PHIL 140 (whichever is not taken in Group A) **or** six units of course weight from the following list of approved courses:

Classics:
CLASS 102: Greek and Roman Mythology (★3)
CLASS 201: Literature of Greece and Rome (★3)
CLASS 250: The Greek World (★3)
CLASS 251: The Roman World (★3)
CLASS 359: Classical Literature in Translation I (★3)
CLASS 360: Classical Literature in Translation II (★3)
CLASS 361: Studies on Women in Classical Antiquity (★3)

Comparative Literature:
C LIT 201: Studies in World Literature I (★3)
C LIT 202: Studies in World Literature II (★3)
C LIT 348: Introduction to the Western Tradition in Literary Criticism I (★3)
C LIT 349: Introduction to the Western Tradition in Literary Criticism II (★3)
C LIT 366: Women in World Literature (★3)
C LIT 450: Introduction to the Western Tradition in Literary Criticism III (★3)

East Asian Languages and Literature:
CHINA 225: Calligraphy I (★3)
CHINA 226: Calligraphy II (★3)
CHINA 323: Early Literature in English Translation I (★3)
CHINA 324: Early Literature in English Translation II (★3)
CHINA 327: Modern Literature in English Translation I (★3)
CHINA 328: Modern Literature in English Translation II (★3)
JAPAN 225: Calligraphy and the History of the Japanese Writing System I (★3)
JAPAN 226: Calligraphy and the History of the Japanese Writing System II (★3)
JAPAN 321: Early Japanese Literature in Translation (★3)
JAPAN 322: Modern Japanese Literature in Translation (★3)

English:
ENGL 201: Literature in English,: Beginnings to 1800 (★6)
ENGL 204: Traditions in English Poetry (★6)
ENGL 271: Canadian Literature: Major Writers and Movements (★6)
ENGL 305: The English Novel (★6)
ENGL 338: Shakespeare (★6)
ENGL 358: American Literature to 1900 (★6)

Germanic Languages:
GERM 171: Introduction to German Linguistics and Literature (★6)
GERM 221: German Prose in English Translation (★3)
GERM 222: German Drama in English Translation (★3)
GERM 330: German Culture and Civilization until 1949 (★6)
GERM 340: German Culture and Civilization since 1949 (★6)
GERM 350: Survey of German Literature (★6)
SCAND 175: Introduction to Scandinavian Language, Literature and Culture (★6)
SCAND 340: Old Norse Sagas and Mythology (★6)
SCAND 345: Literature, Culture and Civilization from the eformation to the 20th Century (★6)
SCAND 351: Modern Norwegian Literature in English (★3)
SCAND 352: Modern Danish and Swedish Literature in English (★3)

Philosophy:
PHIL 130: Problems of Philosophy (★3) (not to be taken with PHIL 140 for Humanities area requirement)
PHIL 160: Philosophical Analysis of Contemporary Issues (★3)
PHIL 200: Introduction to Metaphysics (★3)
PHIL 205: Introduction to Philosophy of Mind (★3)
PHIL 250: Introduction to Ethics (★3)
PHIL 280: Aesthetics: Philosophy of Art (★3)
PHIL 290: Introduction to Philosophy of Religion (★3)

Philosophy (St. Joseph's College):
PHIL 139: An Introduction to Christian Philosophy (★3)
PHIL 199: Current Questions in Christian Philosophy (★3)
PHIL 209: Philosophy of Human Beings (★3)
PHIL 239: Foundations of Christian Philosophy (★3)
PHIL 249: Development of Christian Philosophy (★3)
PHIL 279: Human Beings in Society (★3)

Religious Studies:
RELIG 100: Introduction to the Study of Religion (★6)
RELIG 102: Introduction to Western Religions (★3)
RELIG 103: Introduction to Ancient Religions (★3)
RELIG 104: Introduction to Eastern Religions (★3)
RELIG 248: The Christian Tradition (★3)
RELIG 260: The Concept of Deity (★3)
RELIG 261: Religious Symbolism (★3)
RELIG 365: Comparative Studies in Religious Mythology (★3)

Christian Theology (St. Joseph's College):
CHRTC 166: The Beginnings of the Church (★3)
CHRTC 172: Introduction to Catholic Moral Thought (★3)
CHRTC 264: Dimensions of the Christian Faith (★3)
CHRTC 362: Theological Sources (★3)

Romance Languages:
FREN 244: Readings in French Literature before 1715 (★3)
FREN 245: Readings in French Literature after 1715 (★3)
FREN 246: Reading from French Women Writers (★3)
FREN 360: Introduction to French Literature of the 18th Century (★3)
FREN 370: Introduction to French Literature of the 19th Century (★3)
FREN 380: Introduction to French Literature of the 20th Century (★3)
FR CA 300: Introduction to French-Canadian Literature (★3)
ITAL 350: Italian Literature in English Translation (★3)
SPAN 360: Hispanic Literature in English Translation (★3)

Slavic and East European Studies:
INT D 101: The Slavic World I (★3)
INT D 102: The Slavic World II (★3)
RUSS 320: Masterpieces of Russian Literature in Translation (★3)
RUSS 321: Twentieth Century Russian Literature in Translation (★3)
RUSS 323: Tolstoy and Dostoevsky in Translation (★3)
UKR 320: Masterpieces in Ukrainian Literature in Translation (★3)
UKR 326: Ukrainian Culture (★6)

Social Sciences Group A

Note: See full Calendar listings for complete course descriptions and requirements.

Six units of course weight from the following list of approved courses:
ANTHR 101: Introductory Anthropology (★3)
ECON 101: Introduction to Micro-Economics (★3)
ECON 102: Introduction to Macro-Economics (★3)
GEOG 150: Spatial Organization of Human Activity (★3)
GEOG 151: Introduction to Cultural Geography (★3)
POL S 100: Introduction to Government and Politics (★6)
PSYCO 105: Individual and Social Behavior (★3)
SOC 100: Introductory Sociology (★3)
SOC 101: Canadian Society (★3)
SOC 102: Social Problems (★3)

Social Sciences Group B

Note: See full Calendar listings for complete course descriptions and requirements.

Six units of course weight from the following list of approved courses:

Anthropology:
ANTHR 150: Race and Racism in the Modern World (★3)
ANTHR 201: Topics and Issues in Anthropology (★3)
ANTHR 219: World Prehistory (★3)
ANTHR 227: Indigenous and Cultural Minorities in the Modern World (★3)
ANTHR 306: Introduction to Archaeology (★3)
ANTHR 307: Introduction to Social and Cultural Anthropology (★3)
ANTHR 308: Introduction to Linguistic Anthropology (★3)
ANTHR 309: Introduction to Physical Anthropology (★3)

Classics:
CLASS 363: History of Ancient Greece I (★3)
CLASS 364: History of Ancient Greece II (★3)
CLASS 366: History of the Roman Republic II (★3)
CLASS 369: Early Civilization I (★3)
CLASS 370: Early Civilization II (★3)
CLASS 374: History of the Roman Empire (★6)

Economics:
ECON 281: Intermediate Microeconomic Theory I (★3) - recommended for Majors
ECON 282: Intermediate Macroeconomic Theory (★3) - recommended for Majors
ECON 312: European Economic Development (★3)
ECON 313: An Introduction to the Economics of Developing Countries (★3)
ECON 318: An Introduction to Canadian Economic Development I (★3)
ECON 323: International Economics (★3)
ECON 391: Economic Institutions and Ideologies (★3)

Geography:
GEOG 250: Introduction to Economic Geography (★3)
GEOG 264: The Impact of Human Activities on the Natural Environment (★3)
GEOG 281: Geography of the City (★3)
GEOG 282: Geography of Urban Canada (★3)
GEOG 340: Regionalization in Canada (★3)
GEOG 359: Introduction to Behavioral Geography (★3)
GEOG 370: Political Geography (★3)
GEOG 372: Spatial Dimensions of Public Policy (★3)
GEOG 389: Introduction to Urban Planning (★3)

Germanic Languages:
GERM 306: German-English Contrastive Phonology (★3)
GERM 307: German-English Contrastive Grammar: The Verbal System (★3)

History:
HIST 200: Introduction to Medieval Europe (★6)
HIST 204: European History since the Renaissance (★6)
HIST 205: An Introduction to Modern Intellectual History (★3)
HIST 206: Introduction to the History of Women (★3)
HIST 242: Modern Latin America (★3)
HIST 250: American History to 1865 (★3)
HIST 260: Introduction to the Study of Canadian History, 1500-1867 (★3)
HIST 261: Introduction to the Study of Canadian History, 1867 to Present (★3)
HIST 280: Asia to 1500 (★3)
HIST 281: Asia from 1500 (★3)
HIST 338: Britain as a World Power (★3)

Linguistics:
LING 101: Introduction to the Study of Language I (★3)
LING 102: Introduction to the Study of Language II (★3)
LING 204: Modern English Syntax (★3)

Political Science:
POL S 103: Modern Political Issues (★3)
POL S 300: Comparative Political Systems (★6)
POL S 310: History of Political Thought (★6)
POL S 320: Canadian National Government and Politics (★6)
POL S 323: Local Government and Politics (★3)
POL S 360: International Relations (★6)
POL S 390: Introduction to Political Behavior (★3)

Psychology:
PSYCO 223: Developmental Psychology (★3)
PSYCO 233: Personality (★3)
PSYCO 241: Social Psychology (★3)
PSYCO 258: Cognitive Psychology (★3)
PSYCO 339: Abnormal Psychology (★3)

Romance Languages
R LIN 395: Introduction to the Romance Languages (★3)

Slavic and East European Studies:
INT D 346: Introduction to Eastern Europe and the Soviet Union (★6)
INT D 347: Women and Socialism: USSR and Eastern Europe (★3)

Sociology:
SOC 224: Sociology of Deviance and Conformity (★3)
SOC 231: Introduction to Theories of Society (★3)
SOC 241: Social Psychology (★3)
SOC 251: Population Concerns (★3)
SOC 260: Inequality and Social Stratification (★3)
SOC 261: Social Organizations (★3)
SOC 271: Introduction to the Family (★3)

Fine Arts

Note: See full Calendar listings for complete course descriptions and requirements.

Six units of course weight from the following list of approved courses:
ART 131: Visual Fundamentals (★6)
ART H 101: Introduction to the History of Art I (★3)
ART H 102: Introduction to the History of Art II (★3)
ART H 211: Survey of Medieval Art I (★3)
ART H 232: Survey of Renaissance Art II (★3)
ART H 272: Survey of Nineteenth-Century Art II (★3)
ART H 274: Survey of the History of Design (★3)
ART H 281: Survey of Twentieth-Century Art I (★3)
ART H 283: Survey of Twentieth Century Canadian Art (★3)
CLASS 367: Archaic and Classical Greek Art (★3)
CLASS 368: Hellenistic and Roman Art (★3)
DRAMA 101: Introduction to Theatre Art (★3) - required for Majors in Drama
DRAMA 102: Play Analysis (★3) - required for Majors in Drama
DRAMA 149: Introduction to the Dramatic Process (★3)
DRAMA 247: Introduction to and Development of Oral Communication (★3)
DRAMA 303: History of Canadian Theatre from its Origin to 1945 (★3)
DRAMA 304: History of the Theatre (★6)
DRAMA 400: Modern Theatre (★6)
DRAMA 403: Modern Canadian Theatre (★3)
F ST 200: Introduction to the Study of Film (★6)
F ST 205: The Fundamentals of Film (★3)
MUSIC 101: Introduction to Music (★3)
MUSIC 124: Applied Music (★3)
MUSIC 140: Choral Ensemble (★3)
MUSIC 141: Instrumental Ensemble (★3)
MUSIC 150: Music Theory I (★6)
MUSIC 165: Introduction to World Music (★3)
MUSIC 201: Masterworks of Music (★3)

USIC 202: History of Medieval and Renaissance Music (★3)
USIC 203: History of Baroque Music (★3)
USIC 204: History of Classical and Romantic Music (★3)
USIC 205: History of Post-Romantic and Twentieth-Century Music (★3)
USIC 213: History of Jazz (★3)
USIC 215: Canadian Music (★3)
USIC 224: Applied Music (★3)
USIC 240: Vocal Ensemble (★3)
USIC 241: Instrumental Ensemble (★3)

Note: With the exception of MUSIC 101 and 165, e above Music courses all require the ability to read usic.

latural Sciences, Formal Studies, and cience and Technology

Note: See full Calendar listings for complete ourse descriptions and requirements.

1) Six units of course weight from one field in the following list of approved Natural Science courses:

a. ANTHR 390: Advanced Physical Anthropology (★6)

b. ASTRO 110: Astronomy (★6)

c. GENET 197: Heredity (★3)
BOT 199: Plant Biology (★3)
ENT 220: Introduction to Insect Biology (★3)
MICRB 193: Introductory Microbiology
ZOOL 120: Principles of Animal Biology (★3)

d. CHEM 100: Introductory University Chemistry (★6)
CHEM 104: Introductory University Chemistry (★6)
CHEM 160: Organic Chemistry (★6)

e. GEOG 130: Introductory Physical Geography I (★3)
GEOG 131: Introductory Physical Geography II (★3)

f. GEOL 102: Physical Geology (★3)
GEOL 103: Earth History (★3)

g. PHYS 105: Introductory General Physics I (Mechanics) (★3)
PHYS 106: Introduction to General Physics II (★3)

h. PSYCO 104: Basic Psychological Processes (★3)
PSYCO 208: Experimental Psychology (★3)
PSYCO 266: Perception (★3)

2) Three units of course weight from the following list of approved Formal Studies courses:
CMPUT 114: Introduction to Computing Science (★3)
CMPUT 115: Programming and Data Structures (★3)
CMPUT 181: Introduction to Computation (★3)
CMPUT 182: Introduction to Computers (★3)
CMPUT 251: Introduction to Programming for Scientific Applications (★3)
CMPUT 252: Elements of Scientific Computing (★3)
LING 203: Introduction to Linguistics (★3)
MATH 113 or 114: Elementary Calculus I (★3)
MATH 115: Elementary Calculus II (★3)
MATH 120: Linear Algebra I (★3)
MATH 121: Linear Algebra II (★3)
PHIL 120: Introduction to Symbolic Logic (★3)
PHIL 220: Symbolic Logic (★3)
STAT 141: Introduction to Statistics (★3)
STAT 155: Elementary Statistics (★6)(lab)
STAT 255: Introductory Statistics for Economics (★6)

3) Three more units of course weight from 1 or 2 above or three units of course weight from the following list of approved courses in Science and Technology:

HIST 296: History of Medicine I (★3)
HIST 297: History of Medicine II (★3)
HIST 386: History of Science and Technology in China (★3)
HIST 396: History of Science and Technology (★6)
PHIL 310: Philosophy of Science (★3)

Canadian Content Coordinate Requirement

Note: See full Calendar listings for complete course descriptions and requirements.

Students' programs must include six units of course weight from the following list of approved courses:

Faculty of Arts

Anthropology:
ANTHR 182: Canadian Issues in Ethnographic Perspective (★3)
ANTHR 255: Contemporary Canadian Native Peoples (★3)
ANTHR 256: Alberta Archaeology (★3)
ANTHR 455: Aboriginal Rights (★3)

Art and Design:
ART H 273: Survey of Early Canadian Art (★3)
ART H 283: Survey of 20th Century Canadian Art (★3)
ART H 483: Topics in 20th Century Canadian Art (★3)

Canadian Studies:
CANST 302: Canada's North: The Human Dimension (★3)
CANST 305: The Politics of the Arts in Canada I (★3)
CANST 306: The Politics of the Arts in Canada II (★3)
CANST 350: Canadian Intellectual Traditions (★6)
CANST 401: Seminar in Canadian Studies (★3)(1st-term)
CANST 402: Seminar in Canadian Studies (★3)(2nd-term)
CANST 403: Science and Public Policy in Canada (★3)
CANST 404: Canadian Culture, Communication and Criticism (★3)
CANST 450: Contemporary Canadian Issues (★6)
All CANST courses are open to students in the Canadian Studies program and to others with the consent of the Canadian Studies Committee.

Christian Theology:
CHRTC 349: Christianity and Social Justice in Canada (★3)

Comparative Literature:
C LIT 171: Introduction to the Comparative Study of Canadian Literatures I (★3)
C LIT 172: Introduction to the Comparative Study of Canadian Literatures II (★3)
C LIT 371: Introduction to the Comparative Study of Canadian Poetry (★3)
C LIT 372: Introduction to the Comparative Study of Canadian Prose (★3)
C LIT 373: Introduction to the Comparative Study of Canadian Drama (★3)
C LIT 472: Advanced Comparative Studies in Canadian Literatures I (★3)
C LIT 473: Advanced Comparative Studies in Canadian Literatures II (★3)

Drama:
DRAMA 303: History of Canadian Theatre to 1945 (★3)
DRAMA 403: Modern Canadian Theatre (★3)

Economics:
ECON 101: Introduction to Microeconomics (★3)
ECON 102: Introduction to Macroeconomics (★3)
ECON 318: An Introduction to Canadian Economic Development (★3)
ECON 319: An Introduction to Canadian Economic Development (★3)
ECON 332: Labor Market Policy (★3)
ECON 341: Money and Banking (★3)
ECON 353: Taxation Policy and Structure (★3)
ECON 355: Economics of Project Evaluation (★3)
ECON 363: Introduction to Regional Economics (★3)
ECON 365: Resource Economics (★3)
ECON 366: Energy Economics (★3)
ECON 418: Canadian Economic Development (★3)
ECON 422: International Money and Finance (★3)
ECON 461: Transportation Economics (★3)
ECON 471: Industrial Organization I (★3)

English:
ENGL 271: Canadian Literature: Major Writers and Movements (★6)
ENGL 371: Canadian Literature to 1925 (★6)
ENGL 372: Canadian Literature from 1925 (★6)
ENGL 373: Canadian Poetry to 1925 (★3)
ENGL 374: Canadian Poetry from 1925 (★3)
ENGL 375: Canadian Prose to 1925 (★3)
ENGL 376: Canadian Prose from 1925 (★3)
ENGL 377: Modern Canadian Drama (★3)
ENGL 471: Experimental Writing in Canada (★3)
ENGL 474: Studies in Canadian Poetry (★3)
ENGL 475: Studies in Canadian Prose (★3)
ENGL 477: Studies in Canadian Drama (★3)
ENGL 478: Regional Literature of Canada: Prairie Literature (★3)
ENGL 479: Regional Literature of Canada: Other Regions (★3)

French-Canadian:
FR CA 222: Aspects of French Canadian Culture and Society I (★3)
FR CA 223: Aspects of French Canadian Culture and Society II (★3)
FR CA 300: Introduction to French-Canadian Literature (★3)
FR CA 330: Textual Approaches to French-Canadian Literature (★3)
FR CA 421: Topics in Quebec Theatre (★3)
FR CA 422: Topics in Quebec Poetry (★3)
FR CA 423: The Quebec Novel Before 1960 (★3)
FR CA 424: The Quebec Novel Since 1960 (★3)
FR CA 428: Women's Writing in Quebec (★3)
FR CA 429: French-Canadian Literature Outside Quebec (★3)
FR CA 471: Topics in 19th Century French-Canadian Literature (★3)

Geography:
GEOG 282: Geography of Urban Canada (★3)
GEOG 335: Contemporary Alberta: A Geographical Perspective (★3)
GOEG 336: Environment Alberta (★3)
GEOG 340: Regionalization in Canada (★3)
GEOG 349: Western Canada (★3)
GEOG 355: Population Geography of Canada (★3)
GEOG 372: Spacial Dimensions of Public Policy (★3)
GEOG 406: Interpreting the Cultural Landscape
GEOG 445: Northern Lands I (★3)(Faculty of Science)
GEOG 450: Manufacturing Geography (★3)
GEOG 484: Geography of Retailing (★3)

History:
HIST 260: An Introduction to the Study of Canadian History 1500-1867 (★3)
HIST 261: An Introduction to the Study of Canadian History 1867 to the Present (★3)
HIST 363: Topics in the History of Canadian External Relations (★3)
HIST 364: The History of Social Welfare in Canada (★3)
HIST 365: The Canadian West to 1870 (★3)
HIST 366: The Canadian West Since 1870 (★3)
HIST 367: The History of Ukrainians in Canada (★3)
HIST 368: The Native Aspect of Canada's History I (★3)
HIST 369: The Native Aspect of Canada's History II (★3)
HIST 370: Topics in the Social and Intellectual History of English Canada Since 1760 (★3)
HIST 371: The History of Women in Canadian Society (★3)
HIST 372: A History of Criminal Justice in Canada (★3)
HIST 373: The History of Upper Canada and of Canada West 1784-1864 (★3)
HIST 374: French Canada to Confederation (★3)
HIST 375: French Canada Since Confederation (★3)
HIST 376: Canada - World War I to World War II (★3)
HIST 377: Canada Since World War II (★3)
HIST 378: History of Canada from Confederation to the First World War (★3)
HIST 379: A Survey of Canadian Urban History (★3)
HIST 387: Canada's Relations with East Asia (★3)
HIST 460: Topics in Canadian History (★3)
HIST 464: The Canadian West (★6)
HIST 467: Topics in Alberta History (★3)
HIST 468: Topics in the History of Ethnic Settlement (★3)
HIST 469: Topics in the Political and Constitutional History of Canada Since Confederation (★3)
HIST 470: Topics in Canadian Social History (★3)
HIST 471: Topics in Canadian Intellectual History (★3)
HIST 472: Topics in the History of Pre-Confederation Canada (★3)
HIST 474: Topics in the History of 19th Century French Canada (★3)
HIST 475: Topics in the History of 20th Century French Canada (★3)
HIST 476: Topics in Canadian Business History (★3)
HIST 477: Topics in the History of Canadian External Relations (★3)
HIST 478: Topics in the HIstory of the Canadian North (★3)
HIST 479: Topics in Canadian Native History (★3)

Interdisciplinary Studies:
F ST 310: Canadian Film (★3)
INT D 456: Rural Social Problems and Public Policy (★3)
INT D 458: Socio-Economic Development of Western Canadian Agriculture (★3)

Music:
MUSIC 215: Canadian Music (★3)

Political Science:
POL S 320: Canadian National Government and Politics (★6)
POL S 321: Canadian Government (★3)
POL S 322: Local Government and Administration (★3)
POL S 323: Local Government and Politics (★3)
POL S 326: Canadian Foreign Policy (★3)
POL S 391: Political Parties of Canada and other Western Democracies (★3)
POL S 392: Interest Groups of Canada and other Western Democracies (★3)
POL S 419: Canadian Constitutional Law (★3)
POL S 420: Canadian National Government (★3)
POL S 421: Selected Problems in Canadian Government (★3)
POL S 422: Canadian Public Policy (★3)
POL S 423: Canadian Federalism (★3)
POL S 424: Canadian Political Behavior (★3)
POL S 425: Canadian Public Administration (★3)
POL S 426: Civil Service in Canada (★3)
POL S 427: Selected Problems in Western Canadian Politics (★3)
POL S 428: Provincial Government and Politics (★3)
POL S 429: Government and Politics of Alberta (★3)
POL S 432: Politics of the Canadian North (★3)
POL S 439: Government and Politics of Quebec (★3)
POL S 455: Strategy and Canadian Defence Policy (★3)
POL S 464: Selected Problems in Canadian Foreign Policy (★3)

Religious Studies:
RELIG 280: Religious Beliefs of Native Peoples (★3)
RELIG 285: Religions of Western Canada (★3)

Romance Linguistics:
R LIN 474: The Structure of Canadian French (★3)

Slavic and East European Studies
UKR 327: Early Ukrainian - Canadian Culture (★3)

Sociology:
SOC 101: Canadian Society (★3)
SOC 251: Population Concerns (★3)
SOC 260: Inequality and Social Stratification (★3)
SOC 327: Criminal Justice Administration in Canada (★3)
SOC 344: Public Opinion and Mass Communication (★3)
SOC 368: Canadian Ethnic and Minority Relations (★3)
SOC 372: Sociology of Canadian Development (★3)
SOC 441: Sociology of Religious Sects (★3)
SOC 455: Migration (★3)
SOC 459: The Demography of Marriage and the Family (★3)
SOC 472: Canadian Society (★3)

Arts students may register in the following courses subject to the consent of the faculty offering them.

Faculty of Agriculture and Forestry

FOR 315: Dendrology (★3)
FOR 365: Forest Wildlife (★3)
INT D 456: Rural Social Problems and Public Policy (★3)
INT D 458: Socio-Economic Development of Western Canadian Agriculture (★3)
PL SC 406: Range Plants of Western Canada (★3)

Faculty of Business

LEG R 301: Legal Foundations of the Canadian Economy (★3)

Faculty of Education

EDFDN 201: Introduction to Canadian Education (★3)
EDFDN 301: Education in Canada: Selected Topics (★3)
EDFDN 432: The Education of Native Peoples in Canada: An Historical Study (★3)
EDFDN 474: Contemporary Issues in the Education of Native Peoples: A Social Science Perspective (★3)

Faculty of Law

LAW 300: Law for Non-LLB Students I (★3)
LAW 435: Constitutional Law and History (★4)
LAW 536: Civil Liberties (★3)
LAW 550: Local Government Law (★2)
LAW 565: International Business Transactions (★3)

School of Native Studies

All Native Studies courses: See §134.2.

Faculté Saint-Jean

Canadien-français:
CA FR 320: Civilisation canadienne-française I (★3)
CA FR 322: Civilisation canadienne-française II (★3)
CA FR 350: Panorama de la littérature canadienne française (★3)
CA FR 360: Littérature canadienne-française hors du Québec (★3)
CA FR 370: Le roman canadien-français du 20e siècle (★3)
CA FR 450: Introduction à la littérature canadienne-française du 19e siècle (★3)
CA FR 460: Critique littéraire et sociale du Québec (★3)
CA FR 465: La poésie canadienne-française du 20e siècle (★3)
CA FR 466: Le théâtre canadien-français du 20e siècle (★3)
CA FR 499: Etudes dirigées (★3)

Economie:
ECONE 101: Introduction à la micro-economie (★3)
ECONE 102: Introduction à la macro-economie (★3)
ECONE 318: L'économie canadienne I (★3)
ECONE 319: L'économie canadienne II (★3)

Fondements de l'éducation:
FO ED 201: Introduction à l'histoire canadienne de l'éducation (★3)
FO ED 301: L'éducation au Canada: thèmes particuliers (★3)
FO ED 401: L'école française en situation minoritaire (★3)
FO ED 430: Histoire de l'éducation dans l'Ouest (★3)

Geographie:
GEOGE 260: Géographie rurale du Canada (★3)
GOEGE 282: Géographie urbaine du Canada (★3)
GEOGE 340: Régionalisation du Canada (★3)
GEOGE 349: L'Ouest canadien (★3)

Histoire:
HISTE 260: Introduction à l'étude de l'histoire du Canada de 1500 à 1867 (★3)
HISTE 261: Introduction à l'étude de l'histoire du Canada de 1867 à nos jours (★3)
HISTE 360: Thémes d'histoire du Canada (★3)
HISTE 365: L'Ouest canadien jusqu'en 1870 (★3)
HISTE 366: L'Ouest canadien depuis 1870 (★3)
HISTE 374: Le Canada français jusqu'à la Confédération (★3)
HISTE 375: Le Canada français depuis la Confédération (★3)
HISTE 376: Le Canada de la première à la deuxième guerre mondiale (★3)
HISTE 377: Le Canada depuis la deuxième guerre mondiale (★3)
HISTE 378: Histoire du Canada à partir de la Confédération jusqu'à la première guerre mondiale (★3)
HISTE 399: La francophonie hors-Québec et son histoire (★3)
HISTE 475: Thémes d'histoire du Canada français au 20e siècle (★3)

Sciences politiques:
SC PO 320: Gouvernement et politique du Canada (★6)
SC PO 421: Problèmes relatifs au gouvernement canadien (★3)
SC PO 423: Fedéralisme canadien (★3)
SC PO 428: Gouvernement et politique des provinces (★3)

Sociologie:
SOCIE 101: La société canadienne (★3)
SOCIE 368: Etude des minorités et des groupes ethniques (★3)
SOCIE 372: Sociologie du développement canadien (★3)
SOCIE 472: La société canadienne (★3)

IV. Academic Performance

(1) **Academic Performance for Graduation:** Students must present credit (with a minimum grade of 4 or equivalent) in a minimum of 120 units of course weight, which satisfy program requirements, with a graduation average of at least 5.5. The graduation average is the quotient of (a) the total number of grade points earned by students in courses credited to the degree, and (b) the total weight of those courses. In the case of students who attempted, as part of the program, courses at an institution for which the grades are not precisely equivalent to those of the University of Alberta, the degree will be awarded at the discretion of the Faculty of Arts.

(2) **Degree with Distinction:** Degrees with Distinction shall be awarded to students who achieve a grade point average of 7.5 or more, both on the last 120 units of course weight of their programs and on all units of course weight in the major subject of concentration. In the case that transfer or other students have attempted, as part of their program, courses at another institution, the Degree "with Distinction" will be awarded at the discretion of the Faculty of Arts.

43.1.2 The Degree of BA with Honors (Degree Code AR07)

Programs leading to the degree of Bachelor of Arts with Honors require a minimum of 120 units of course weight (some departments may require more). Normally, these programs will be completed in four consecutive years of study during Winter Sessions. They are designed to provide specialization in the chosen subject or subjects, with study in greater depth than is provided by the General program, and demand a higher standard of performance. A Combined Honors program involving two subjects of concentration may also be considered through consultation with the departments concerned.

(1) **Admission:** Entrance to the Honors program ordinarily takes place at the end of the first year of university studies. Students who plan to seek admission to an Honors program should consult the appropriate department Honors adviser prior to first year registration. Some departments will consider applications for transfer to Honors submitted by students who have completed the second or even third year of another program. There is normally no admission to Honors in January.

(2) **Selection of courses:**

a. In each year, Honors students' programs and every change of registration must be approved by the departmental adviser concerned indicating the approval of the department. Also refer to §42.2(1) of this Calendar.

b. Students entering the Honors program from the BA (AR20), or any program except the BA (General) (AR06) and the BA (Special) (AR12), must include in their program six units of course weight of a junior English course (ENGL 101 recommended); six units of course weight in language other than English; 12 units of cours weight chosen from the Social Sciences, Fin Arts and Humanities with at least three units c course weight in each of these areas (it recommended that these courses be chose from the core requirement lists for the B degree, see §43.1.1(III); six units of cours weight in Natural Sciences and/or Formal Stud ies, to be selected from the core requiremen lists for the BA degree (see §43.1.1(III)); si units of course weight from the approved list o Canadian-content courses for the BA degre (see §43.1.1(III)).

c. Students who enter the Honors program fron the BA (General) or BA (Special) shall normall be subject to existing diversification require ments, as follows: ENGL 101 or its equivalent six units of course weight in a Language othe than English; 12 units of course weight choser from the Social Sciences, Fine Arts, and Hu manities with at least three units of cours weight in each of these areas (see §42.4(4)); six units of course weight in Natural Sciences or Formal Studies. Students contemplating an Honors program are advised to meet these requirements in their first year, to study the appropriate department Calendar statement, and consult the departmental Honors adviser for recommended course selection.

Note A: The Humanities requirement is not satisfied by the required junior English or the Language other than English courses, but may be satisfied by subsequent courses in these areas.

Note B: A Language other than English course taken to clear a matriculation deficiency may not be used to fulfill the Humanities or Language other than English program requirement.

d. No student may include more than 48 junior units of course weight or their equivalent in the program. Also refer to §42.4 of this Calendar.

e. Over the four years students will be required to take no fewer than 48 units of course weight in the subject of concentration as defined by the department; for Combined Honors programs, the minimum number of courses in each subject of concentration will be decided through consultation with the departments concerned in planning the total program but in no case will it consist of less than 36 units of course weight in each discipline. Further information on the requirements of a particular program may be found in the appropriate department calendar statement in §43.

(3) **Academic Standings and Graduation:**

a. Both admission to Honors and promotion from year to year in Honors require a minimum grade point average:

1) Admission to Honors requires a minimum grade point average of 6.5 with an average of 7.0 or better in courses in the areas of concentration, and the recommendation of the department concerned whose required grade point average may exceed the Faculty minimum. The grade point average for admission to Honors must be based on all courses taken during the most recent year in full-time attendance (minimum of 24 units of course weight), or the last 30 units of course weight taken in part-time study.

2) Promotion from year to year in Honors requires a minimum grade point average of 6.5 on all courses taken during the academic session, and the recommendation of the department concerned whose required grade point average for promotion may exceed the Faculty minimum.

b. Students who fail to attain the standard necessary for continuance in Honors must withdraw from Honors but may transfer to another program in the Faculty provided they meet the requirements for that program. After such transfer they must complete all requirements for their new program. However, students who transfer to the BA degree at the end of the second year of their Honors program need complete only six units of course weight in Natural Sciences or Formal Studies to satisfy the Natural Sciences and Formal Studies core requirement. All other requirements for the BA degree must be completed.

Students who are not recommended to continue in Honors at the end of their third year and who transfer to the BA program, may satisfy the Natural Sciences and Formal Studies core requirement with six units of course weight and may have the Humanities B and Social Sciences B core requirements waived. All other requirements for the BA degree must be completed.

Students who are not recommended for graduation with Honors at the end of their fourth year may be granted the BA degree forthwith, provided they have successfully completed 120 units of course weight which include ENGL 101; six units of course weight equivalent from each of the core areas for the BA (except Humanities B and Social Sciences B); the Canadian-content coordinate requirement, and the required Second Subject for the BA (see §43.1.1). In no case shall more than 60 units of course weight in the major subject be counted as part of the required 120 units of course weight. Students deficient in any respect may be required to take one or more courses in a subsequent session.

h. Students who have transferred into the Honors Program from a four-year program shall not be permitted to transfer back into a three-year program or to take a three-year degree forthwith.

In the circumstances in (b), (c) and (d) above, students who entered the Honors Program from the BA (General) or BA (Special) or any other program, except the BA (AR20), shall normally be subject to the existing requirements, as follows: six units of course weight in Natural Sciences or Formal Studies which has been completed as part of the Honors program may substitute for the Laboratory Science course requirement.

g. Students who entered the Honors program from the BA (General) or BA (Special) or any other program, except the BA (AR20), and who are not recommended to continue in Honors at the end of their third year, or who fail to complete the requirements for a degree with Honors in their fourth year, may be granted the General degree forthwith, provided that their program includes either (1) six units of course weight from each of the Fine Arts, Humanities, and Social Sciences course offerings, and six units of course weight in Natural Sciences or Formal Studies, or (2) a second area of concentration comprised of not less than 18 units of course weight in a particular discipline, and otherwise meets the requirements of the General program. Students deficient in any respect may be required to take one or more courses in a subsequent session.

h. Students who entered the Honors program from the BA (General) or BA (Special) or any other program, except the BA (AR20), and who, for any reason, are unable to return to university for the fourth year may apply for a General degree under the same conditions as those who have failed to meet the required standards.

i. Students who entered the Honors program from the BA (Special) and who are not recommended for graduation with Honors at the end of their fourth year may be granted the BA (Special) degree forthwith, provided they have successfully completed 120 units of course weight which include six units of course weight from each of the Fine Arts, Humanities, and Social Sciences offerings, and six units of course weight from Natural Sciences or Formal Studies and a second subject of concentration consisting of 18 units of course weight. In no case will students be permitted more than 60 units of course weight in their major subject of concentration. Students deficient in any respect may be required to take one or more courses in a subsequent session.

j. A reduced course load (less than 30 units of course weight) in any year of an Honors program, or interruption of such a program, or part-time study must be approved by the department concerned and by the Dean.

k. **First-Class Honors:** First-Class Honors shall be awarded on the basis of either

1) a minimum GPA of 8.0 on all courses beyond the junior level in the subject of concentration and 7.5 or better on all courses in the final year or the last 30 units of course weight

Or

2) a minimum GPA of 8.0 on all courses in the two final years in the subject of concentration and 7.5 or better on all courses in the two final years or the last 60 units of course weight.

Departments shall choose one of the above options as their departmental policy.

Department recommendation for graduation with Honors may exceed the Faculty minimum of 6.5.

(4) **Cooperative Work Option Within Honors Programs:** Cooperative education is based on the principle that, for some students, periods of appropriate employment outside the University, when integrated with their academic studies, enhance the benefits that students obtain from their academic programs. The work should be of a type that students can reasonably hope to obtain after they graduate, or suitably related to the content of their academic programs. Cooperative work experience will be wholly additional to and not a substitute for academic courses; it is perceived as a valuable enrichment for some students but not as an alternative to normal course work. Accordingly, the existing requirement for 120 units of course weight will be maintained, with a no-credit course number for the evaluation of a report or project resulting from the work experience.

a. **Admission Requirements:** Students must have completed a minimum of two years in an academic program and otherwise meet the requirements for admission to the academic honors program. (See §43.1.2.(1)).

b. **Program Selection:** Two forms of cooperative work are available:

1) full-time employment for a period of not less than three months and not more than one year; such periods, integrated into the normal academic program, are referred to as "work terms."
2) part-time employment equivalent in working hours to no less than three units of course weight; such employment is referred to as a "work assignment".

c. **Registration:** Work-terms and work assignments must be approved in advance by the department concerned and the Dean's office. Retroactive approval will not be granted.

d. **Withdrawal:** Students may withdraw from a cooperative program on completion of a work-term or work assignment, or at any time during a normal academic term, and may continue in the academic honors program of their department without penalty, provided that the requirements of these programs have been met. Further information may be obtained from departments offering such programs.

43.1.3 The Degree of BA (General) (Degree Code AR06)

Students previously admitted to the BA (General) may continue in the program, or be readmitted, in order to complete degree requirements by April 30, 1994. Also refer to §42.1(8) of this Calendar.

(1) The BA (General) program is designed to enable students to obtain a diversified education in more than one branch of study, within the limits of a three-year program. Students must secure credit in at least 48 units of course weight offered by the Faculty of Arts.

a. **Duration:** A program of 90 units of course weight normally taken in three years. This period may be extended at the students' discretion. Acceleration of the program will only be permitted in exceptional circumstances and with the Dean's approval.

b. **Language requirement:** Refer to §42.1(2) of this Calendar.

c. **Course load requirement:** See §42.2(3) of this Calendar.

d. **Residence Requirement:** Students proceeding towards the BA (General) degree must have credit for at least 30 units of course weight offered by the University of Alberta. Refer to §42.1(9).

(2) **Curriculum:**

a. **First Year:** 30 units of course weight of junior courses are required; no more than six units of course weight may be selected from each discipline. Also refer to §42.4(3) of this Calendar.

b. **Diversification Requirements:** Refer to §42.4(4) of this Calendar.

c. **Subjects of concentration:** Two are required: a principal subject chosen from Fine Arts, Humanities, Social Sciences, Geography, Linguistics, or Mathematics, and a second subject, which may be chosen from the offerings of either the Faculty of Arts or the Faculty of Science. In the principal subject, a minimum of 18 units of course weight is required, at least 12 of which must be senior courses; a maximum of 30 units of course weight is permitted. If a combination of Mathematics/Statistics is chosen, a minimum of 24 units of course weight is required, 12 at the senior level. In the second subject, a minimum of 18 units of course weight is required and a maximum of 24 units of course weight is permitted. Refer to §42.4(9) for a listing of acceptable subjects of concentration.

d. **Options:** Refer to §42.4(10) of this Calendar.

e. **Junior courses:** Refer to §42.4(8) of this Calendar.

f. **Free options:** Refer to §42.4(5) and 42.4(6)of this Calendar.

(3) **Academic performance:**

a. **Graduation:** To qualify for a BA (General) degree students must present a grade of 4 or better in a minimum of 90 units of course weight courses, and a grade point average of at least 5.0 in all courses credited to the degree after the completion of first-year requirements.

b. **Degrees with Distinction** shall be awarded to students who achieve a grade point average of 7.5 or higher over all courses completed after the first 30 units of course weight. (Courses declared extra to the degree at the time of registration will not be used in the calculation.)

43.1.4 The Degree of BA (Special) (Degree Code AR12)

Students previously admitted to the BA (Special) may continue in the program, or be readmitted, in order to complete degree requirements by April 30, 1994. Also refer to §42.1(8) of this Calendar.

(1) The BA (Special) program is designed to enable students, under the guidance of the department of their choice, to obtain a diversified education in more than one branch of study, but with a greater degree of specialization in a particular field than is available in the General program. Students must secure credit in at least 66 units of course weight in courses offered by the Faculty of Arts. Students in the BA (Special) degree program must seek counselling and program approval from the adviser in the department of their principal (major) subject.

a. **Duration:** A program of 120 units of course weight normally taken in four years (30 units of course weight per year).

b. **Language requirement:** Refer to §42.1(2) of this Calendar.

c. **Course load requirement:** Refer to §42.2(3) of this Calendar. Part-time study or reduction of course load in any term requires the approval of the departmental adviser.

d. **Residence Requirement:** Refer to §42.1(8) and 42.1(9) of this Calendar.

(2) **Curriculum:**

a. **First Year:** Refer to §42.4(3) of this Calendar.

b. **Diversification Requirements:** Refer to §42.4(4) of this Calendar.

c. **Subjects of concentration:** Two are required: a principal subject chosen from Fine Arts, Humanities, Social Sciences, Geography, Linguistics or Mathematics, and a second subject which may be chosen from the offerings of either the Faculty of Arts or the Faculty of Science. Normally, in the principal subject a minimum of 30 units of course weight is required, at least 24 of which must be senior courses; a maximum of 48 units of course weight is permitted. See §43.2-43.25 for department variations to the required number of principal subject courses. In the second subject a minimum of 24 units of course weight is required and a maximum of 30 units of course weight permitted. Refer to §42.4(9) for a listing of acceptable subjects of concentration.

d. **Options:** Refer to §42.4(10) of this Calendar.

e. **Junior courses:** Refer to §42.4(8) of this Calendar.

f. **Free options:** (See §42.4(5)and 42.4(6)).

(3) **Academic performance:**

a. **Graduation:** To qualify for a BA (Special) students must present a grade of 4 or better in a minimum of 120 units of course weight, and a grade point average of at least 5.0 in the last 90 units of course weight of the program.

b. **Degrees with Distinction** shall be awarded to students who achieve a grade point average of 7.5 or higher over all courses completed after the first 30 units of course weight. (Courses declared extra to the degree at the time of registration will not be used in the calculation.)

43.1.5 The Degree of BA (East Asian Studies) (Degree Code AR16)

This is a four-year program (120 units of course weight), selected under the guidance of the Chair (or designate) of the East Asian Studies Committee.

Conditions governing junior course limit, course load, final year, and graduation requirements and Degrees with Distinction are as for the BA (AR20) program (§43.1.1).

The core program and Canadian content coordinate requirement are identical to those of the BA(AR20), except that the foreign language requirement must be met by taking CHINA 100 (or CHINA 101 and 102) **or** JAPAN 100 (or JAPAN 101 and 102).

(1) **East Asian Studies as a Major Subject of Concentration:** A minimum of 36 and a maximum of 48 units of course weight with significant East Asian content is required, including the following: HIST 280 or 281; CHINA 200 (or 201 and 202) **or** JAPAN 200 (or 201 and 202); CHINA 301 and 302 **or** JAPAN 301 and 302; six units of course weight from the following: ANTHR 278, ANTHR 279, ANTHR 280, ECON 310, ECON 311, POL S 300, RELIG 200; 15 to 27 units of course weight at the senior level (12 of which must be at the 400-level or above) from the approved list of East Asian content courses listed in the Program Guide (available from the Chair of the East Asian Studies Program, or the General Office of the East Asian Languages and Literatures Department).

(2) **Specialization Requirements:** Students may specialize in one or two disciplines. For specialization in a **single** discipline, students must take a minimum of 24 and a maximum of 42 units of course weight at the senior level (six of which must be at the 400-level or above). Six units of course weight at the senior level must be from the approved list of East Asian content courses listed in the Program Guide. For specialization in **two** disciplines, 12 to 21 units of course weight must be at the senior level with three units of course weight in each discipline at the 400-level or above. At least three units of course weight at the senior level in each discipline must be from the approved list of East Asian content courses listed in the Program Guide.

(3) Overlap between the Core Program and the Major Subject of Concentration is allowed, as is overlap between the Core Program and the Specialization. No overlap is allowed between the East Asian Studies concentration and the Specialization.

(4) If Chinese or Japanese language is chosen as the specialization, six units of course weight must be taken in the East Asian language other than the one chosen as the major.

(5) For the Certificate of Equivalence see §43.1.8

43.1.6 The Degree of BA (Criminology) (Degree Code AR15)

(1) This quota program, based in the Department of Sociology, is designed to coordinate several disciplines for the purpose of providing a more thorough analysis of the causes of criminal behavior and the variety of social responses to such conduct. It is a program of 120 units of course weight , with Sociology as the principal subject of concentration. The second subject of concentration composed of a combination of approved courses from the Departments of Anthropology, Economics, Educational Psychology, History, Native Studies, Philosophy, Political Science, and Psychology. The program is designed for students with career interests in the criminal justice system and includes two field placements for supervised work experience.

(2) Since there is a quota of 45 students in the program, admission is determined on a competitive basis from among eligible applicants. To be eligible for consideration for admission the minimum requirements include the successful completion of the five matriculation subject areas as required for the University of Alberta BA (see above), plus the successful completion of 30 units of course weight of the BA or the equivalent at an accredited institution; the achievement of a minimum 6.0 grade point average on the most recent 30 units of course weight; submission of a completed application to the office of the Registrar by the annual deadline in the academic schedule (usually in the first week of March); submission to the Program Director by March 1: two letters of reference attesting to ability and suitability for employment in the criminal justice system; a résumé of personal data and, in particular, experience (volunteer and/or work) relevant to the criminal justice system; and a written statement of career objectives. In addition, applicants are required to attend an interview with one or more members of the selection committee. Applicants are selected for September admission only. No more than 78 units of course weight will be granted transfer credit toward the BA (Criminology) program.

(3) Criminology students are required to consult with the Program Director to review proposed coursework prior to registration for each academic year and in advance of any changes to approved registration. Students initally admitted into the AR20 program or transferring from other faculties or other post-secondary institutions effective Winter Session 1988 must successfully complete the 54 core program units of course weight of the AR20 program as part of the 120 units of course weight requirement for the AR15 program. Normally students are expected to enroll on a full-time basis (30 units of course weight per year), although exceptions may be considered and approved by the Program Director. Students must obtain permission of the Director in advance if they wish to interrupt their program but retain their status in the BA (Criminology) program. To be promoted in each year students will be required to have a minimum grade point average of 6.0 and be recommended by the Department of Sociology. Failure to be promoted for academic reasons is cause for removal from the program. Affected students may transer to another program in the Faculty provided the requirements for such a program are met. All requirements for the new program must be completed after transferring.

(4) **Curriculum:**

a. For students initially admitted into the three-year BA (General) or four-year BA (Special) program or transferring from other faculties or other post-secondary institutions prior to the Winter Session of 1988:

1) **First Year:** Same as BA (General).

2) **Compulsory Course Requirements:** Same as BA (General) (§43.1.3(2)(b)).

3) **Subjects of concentration:** The principal subject is Sociology in which a minimum of 33 units of course weight is required; a maximum of 39 is permitted. The following Sociology courses must be included in the program: 100 or 300; 225, 327; 399, 499; any three of the following: 424; 425; 426; 427; 428; 429. The second subject is composed of a multidisciplinary combination of courses and requires a minimum of 27 units of course weight to a maximum of 39. The following courses must be included in the program: EDPSY 413; PSYCO 104 and 105; any two of the following: PSYCO 223; 233; 281; 339; 435; any four of the following: ANTHR 255; ECON 350; HIST 364, 372; INT D 394; NS 210, 211; PHIL 272; 372; 472; POL S 322; 328; 425; 426; 431; 451.

4) The final two years of the program must include the following courses in their program: SOC 399 and 499. These courses are required as part of the principal subject of concentration and will involve supervised work experience in relevant settings as well.

b. For students initially admitted into the BA(AR; program or transferring from other faculties other post-secondary institutions effective W ter Session 1988:

1) Students seeking admission to Criminolo are strongly advised to include ENGL 1(SOC 100, PSYCO 104 and 105, and language other than English in the fi year of their post-secondary program.

2) **Subjects of concentration:** The princi subject is Sociology in which a minimum 30 units of course weight is required; maximum of 48 is permitted. The followi Sociology courses must be included in t program: 100 or 300; 225, 327, 399, 49 any three of the following: 420, 421, 42 424; 425; 426; 427; 428; 429. The seco subject is composed of a multidisciplina combination of courses and requires a mi mum of 27 units of course weight to maximum of 39. The following courses mu be included in the program: EDPSY 41 PSYCO 104 and 105; any two of the follo ing: PSYCO 223; 233; 281; 339; 435; a four of the following: ANTHR 255; ECO 350; HIST 364, 372; INT D 394; NS 21 211; PHIL 272, 372, 472; POL S 322, 32 425, 426, 431, 451.

3) Other coursework required to reach 12 units of course weight is made up of optio and free options.

4) The final two years of the program mu include the successful completion of SO 399 and 499. These courses are require as part of the principal subject of concer tration and will involve supervised wo experience in relevant settings. Student must obtain a minimum grade of 6 in eac component of SOC 399 and 499 or repe the entire course.

43.1.7 The Degree of BA (Canadian Studies) (Degree Code AR13)

This is a four-year program (120 units of cours weight), selected under the guidance of the studer adviser (or designate) of the Canadian Studies Commit tee.

Conditions governing junior course limit, cours load, final year and graduation requirements and De grees with Distinction are as for the BA(AR20) program (§43.1.1)

The first two years of this program are identical t those of the BA (AR20). To maximize flexibility i program planning students seeking a BA (Canadia Studies) are advised to satisfy their core program re quirements as much as possible with Canadian-conten courses, and courses in their planned disciplinary spe cialization. Students will normally take French for thei Language other than English. Students planning t transfer into Canadian Studies from outside the Faculty of Arts are advised to consult with the Canadian Studies Adviser or the Student Programs Office to determine which program requirements apply to them.

Students at the University of Alberta or at Alberta colleges with which the University has transfer agreements, who entered the BA (Canadian Studies) program prior to May 1988 may continue under the program requirements then in effect. Such students must complete the program on or before April 30, 1996. Students who entered the program between May 1988 and May 1990 are governed by the requirements in the 1988-89 and 1989-90 Calendar; they must complete the program before 30 April 1998. Students entering the program after 1 May 1990 are governed by the requirements set out below.

(1) **Canadian Studies Course Requirements:** A minimum of 42 units of course weight with Canadian content is required including at least 18 units of course weight CANST courses and six units of course weight in each of Canadian political science, Canadian history, and Canadian literature in English or French.

(2) **Specialization Requirements:** Students will specialize in an established discipline (e.g. English, Economics, French-Canadian); or, by special arrangement, will construct a multidisciplinary specialization designed to explore a specific topic or theme.

In both patterns, at least 30 units of course weight are required and no more than 48 are permitted; at least 18 of these must be approved Canadian-content units of course weight.

Language Requirement: Students in Canadian Studies must demonstrate competence in written and spoken French by completing six senior-level units of course weight in French or French-Canadian, or six approved senior-level Canadian-content units of course weight taught in French. With the approval of the Canadian Studies Program adviser, a student may satisfy the language requirement with comparable competency in a Canadian aboriginal language.

Extra-Faculty Options: Six extra-faculty units of course weight selected from the list of approved Canadian content courses may count towards the Canadian Studies requirement but not towards the disciplinary specialization requirements. (§42.4(5) and §42.4(6)).

Degrees with Distinction shall be awarded to students who achieve a grade-point average of 7.5 or higher over all courses completed after the first 30 units of course weight. (Courses declared extra-to-the-degree at the time of registration will not be used in the calculation.)

or the Certificate of Equivalence, see §43.1.8

3.1.8 Certificate of Equivalence (Degree Code AR14)

Applicants holding a University of Alberta BA (General) degree may qualify for a certificate indicating that they have met the requirements of the BA (Special) or BA (Canadian Studies) or BA (East Asian Studies) degree by completing 30 more units of course weight, or more, if required, to meet curriculum requirements. This option is not open to degree holders from other universities.

§§43.2 to 43.27 contain advice offered by the various Arts departments for students selecting courses in their subjects of concentration. Further information may be obtained by consulting members of the department concerned. See also §42.3 for time limit for completing the Certificate of Equivalence.

3.1.9 The BA (AR20), BA (Canadian Studies) (AR13), and BA (East Asian Studies) (AR16) After Another Undergraduate Degree (Other Than Bachelor of Arts)

Applicants having a first undergraduate degree other than a Bachelor of Arts may be admitted to the BA, BA (Canadian Studies), or BA (East Asian Studies) degree programs. All requirements for the degree, as in Calendar §43.1.1 or 43..1.7 or 43.1.5, are to be met, but the total number of required units of course weight for the After Degree program may be reduced by a maximum of 18 Arts and Science units of course weight taken in the first degree, provided these are appropriate to satisfy the requirements of the BA After degree. The program is taken under the direction of the department offering the major subject of concentration.

Notes:

(1) Any deficiency in a matriculation requirement or a prerequisite to a program requirement must be cleared prior to admission to the degree program.

(2) The Free Options open to students in the BA program (§43.1.1(II)(9)) are not available in a BA after a previous degree.

(3) The major subject of concentration may be the same as in the first degree provided it is an Arts subject.

(4) Students applying to a third undergraduate degree will receive no reduction in the units of course weight requirements.

43.1.10 The BA (Honors) After Another Undergraduate Degree

Requirements of a BA (Honors) degree after another undergraduate degree will vary depending on the previous degree held and the Honors degree sought. Students may take a maximum of 48 junior units of course weight in the total program (including both transfer courses and courses taken in the Faculty of Arts and Science.) In all cases, minimum admission and promotion requirements of the Honors degree must be met (see §43.1.2), and departmental recommendation and Faculty approval for admission must be secured. For detailed information, applicants should contact the Departmental Honors Adviser concerned and the Faculty of Arts Student Programs Office.

Notes:

(1) Any deficiency in a matriculation requirement or a prerequisite to a program requirement must be cleared prior to admission to the honors program.

(2) Courses outside the Faculties of Arts or Science are not normally permitted in a BA Honors after a previous degree.

(3) The major subject of concentration may be the same as in the first degree provided it is an Arts subject.

(4) Students applying to a third undergraduate degree will receive no reduction in the course weight requirements.

43.1.11 The BFA or BMus After a Previous Bachelor's Degree

The requirement for a BFA (Art and Design) or a BFA (Drama) or BMus after a previous Bachelor's degree, will normally be three years, (90 units of course weight), but in no case will less than 72 units of course weight be required. The program will be established by the Faculty of Arts.

Notes:

(1) Any deficiency in a matriculation requirement or a prerequisite to a program requirement must be cleared prior to admission to the honors program.

(2) Courses outside the Faculties of Arts or Science are not normally permitted in a BFA or BMUS after a previous degree.

(3) Students applying to a third undergraduate degree will receive no reduction in the units-of-course weight requirements.

43.1.12 Degree of BFA in Art and Design (Degree Code AR09)

General Information

The Department of Art and Design offers a program leading to the degree of Bachelor of Fine Arts in Art and Design. The program is as follows:

First year: ART H 101/102; ART 132, 133, 240; ENGL 101 or equivalent; an approved three units of course weight Arts or Science option.

Second year: Six units of course weight chosen from History of Art and Design courses at the senior level, ART 340, plus 18 studio units of course weight from the 300-level and six units of course weight of an approved Arts or Science option.

Third year: Six senior units of course weight in History of Art and Design plus 18 studio units of course weight from the 300-, 400- or 500-level; and six units of course weight of an approved senior Arts or Science option.

Fourth year: Six units of course weight chosen from History of Art and Design courses at the 300- or 400-level, plus 18 senior studio units of course weight including a minimum of 12 at the 500-level and six units of course weight of an approved senior Arts or Science option.

The program is subject to the following regulations:

(1) **Admission requirements** are as set out in §§13.2 and 13.4.2 of this Calendar. (This includes the assessment of a portfolio which must be submitted no later than May 1st).

(2) **Promotion:**

a. Promotion to each year is by recommendation of the Department for which a grade point average of at least 6.0 is normally required. A copy of the criteria for recommending promotion and graduation is available from the Department Office or the Student Programs Office, Faculty of Arts.

b. A grade of 4 in a central subject may normally be allowed only once in a BFA student's program. Any subsequent three or six units of course weight in which a grade of 4 is received must be repeated for BFA credit, or an alternative three or six, approved by the Department, must be substituted.

c. To qualify for the Bachelor of Fine Arts in Art and Design, students must have successfully completed 123 units of course weight: of these, 72 must be in studio courses (including 12 at the 500-level) and 24 must be in the History of Art and Design (including six at the 300- or 400-level.)

d. Students who are not recommended to continue in the program at the end of the first, second or third year of study must withdraw from the program. Such students may transfer to another program in the Faculty of Arts provided the entrance and promotion requirements for such a program are met. After transfer all requirements for the new program must be completed.

e. Students who fail to meet the final-year requirements in the program will be permitted to fulfill those requirements only with the approval of the department and the Dean of Arts.

f. A Bachelor of Fine Arts program may be interrupted only with the consent of the Department.

(3) **The following regulations also apply:**

a. Students proceeding towards the BFA Art and Design degree must have credit in at least 60 units of course weight offered by the University of Alberta.

b. When enrolled in the BFA Art and Design program, students are required to take a minimum of 24 units of course weight during each regular academic year. The Department may recommend to the Dean exemption from this regulation.

c. The final year of the program must be taken in attendance at the University of Alberta campus.

d. With the prior approval of the Department, students may substitute for an Arts or Science option in Year 2 or 3 or 4, up to six units of course weight from the following list offered by other faculties:

EDUCATION

EDMDA 351
EDMDA 470
EDMDA 471
EDMDA 473

ENGINEERING

EE 301
ENGG 200
ENGG 210
ENGG 308
ENCMP 200
ENGG 230
ENGG 231
MEC E 490

HOME ECONOMICS

CL TX 150
CL TX 151
CL TX 160
CL TX 268
CL TX 251
CL TX 368
CL TX 352
H EC 300

REHABILITIATION MEDICINE

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e. Degrees with Distinction shall be awarded to students who achieve a grade point average of 7.5 or more, both on all of the units of course weight credited to the program and on all of the units of course weight in Art and Design. In the case that transfer or other students have attempted, as part of their program, courses at another institution, the Degree "with Distinction" will be awarded at the discretion of the Faculty.

43.1.13 The Degree of BFA in Drama

General Information

The Department of Drama offers a program leading to the degree of Bachelor of Fine Arts in Drama. Students must successfully complete either the specialization in Acting or Design.

(1) Admission requirements are as set out in §§13.2 and 13.4.2 of this Calendar. (This includes successful completion of audition requirements). A non-refundable deposit towards tuition fees, on official notification of acceptance, will be required of successful applicants. (See §13.3.2 of this Calendar.)

(2) The following are the required courses in a recommended sequence.

a. **Specialization in Acting**

First year of residency: DRAMA 335, 336, 338, 345, 346, 348, 351, 355, 356, 358, 393, 399; six units of course weight in Theatre History or Dramatic Literature.
Second year of residency: DRAMA 303, 403, 435, 436, 438, 445, 446, 448, 455, 456, 458, 499.
Third year of residency: DRAMA 534, 535, 544, 545, 551, 554, 595, 599.

b. **Specialization in Design**

First Year: DRAMA 304, 351, 370, 371, 372, 375, 392, 471.
Second Year: DRAMA 383, 400, 470, 472, 473, 476, 492.
Third Year: DRAMA 570, 571, 572, 573, 574, 576.

(3) **Promotion**:

a. To be promoted to the next year, students will normally be required to have a minimum grade point average of 5.5 plus the recommendation of the Department.

b. In the case of students who receive a grade of less than 6 in any core acting course (i.e., DRAMA 336, 338, 346, 356, 358, 436, 438, 446, 448, 456, 458) the Department's recommendation for promotion may be withheld.

c. A student failing to receive the Department's recommendation for promotion at the end of any term of the first or second year of residence, or failing to achieve a minimum cumulative grade-point average of 5.5 at the end of any Winter session may be required by the Faculty of Arts to withdraw from the BFA (Drama) program immediately. Students who are required to withdraw may apply for transfer to another program in the Faculty of Arts.

d. Final-year requirements include a minimum grade point average of 5.5 and the recommendation of the Department.

e. Students who fail to meet the final-year requirements in the program will be permitted to fulfill these requirements only with the approval of the Dean of Arts upon the recommendation of the Department; otherwise, they must withdraw from the program and may apply for transfer to another program in the Faculty of Arts.

f. A Bachelor of Fine Arts program may be interrupted only with the prior consent of the Department.

(4) **Residence Requirement:** Students must complete the BFA (Acting) program as full-time students at the University of Alberta.

(5) **Academic performance:**

a. To qualify for the Bachelor of Fine Arts in Drama, students must have successfully completed the curriculum for the chosen area of Specialization, have met all promotion continuation, final year and residence requirements, and receive the recommendation of the Department.

b. For the degree of BFA with Distinction candidates are required to carry a full course load in each of the last two years and obtain a grade point average of 7.5 or higher over those last two years. Students who have taken part of their work at another university may be granted a degree "With Distinction" at the discretion of the Faculty of Arts.

43.1.14 The Degree of BMus (Degree Code AR11)

General Information

The Department of Music offers a variety of programs leading to the degree of Bachelor of Music or Bachelor of Music with Honors (see §43.1.15). The BMUS (General) is a flexible degree allowing students to take a wide variety of options. The BMUS (Performance) allows students to specialize in performance. The BMUS (School Music) is designed to prepare students for further training in music education, and in particular for admission to the B Ed After Degree program in Music Education.

BMus (General)

(1) Admission requirements are as set out in §§13.2 and 13.4.2 of this Calendar. (This includes successful completion of audition requirements.)

(2) **BMus curriculum:** This consists of a total of 132 units of course weight, with the required courses in the recommended sequence and other conditions as follows:

a. **First year:** ENGL 101 or 104/105, MUSIC 121, 140 or 141, 150, 151, 202, 203.

b. **Second year:** MUSIC 204, 205, 225, 240 or 241, 250, 251.

c. **Third year:** MUSIC 425, 439 or 440 or 441, 450, 451.

d. **Fourth year:** MUSIC 461, 525, 539 or 540 or 541.

e. Six units of course weight in a language other than English.

f. **Options:** Nine units of course weight in Music options, nine units of course weight in non-Music Arts or Science options, three units of course weight in non-Music Fine Arts options, 15 units of course weight in Music, Arts, or Science options, and six units of course weight in senior options. Options must be approved by the Department.

g. Students entering the BMus program who are not electing a keyboard instrument as a first practical subject will be asked to take a keyboard proficiency examination covering basic technical materials and sightreading (approximately Grade IV Western Board). The requirement may be waived upon presentation of a Grade VI Western Board certificate, or equivalent, earned within three years prior to entering the program. Students who choose not to take the examination or are unable to pass the examination can satisfy this requirement by successfully completing MUSIC 129 in the first year. The keyboard proficiency requirement must be met by the beginning of the second year in the program.

h. Candidates must elect one principal Applied Music Study as part of the program to be chosen from the following: piano, organ, voice, violin, viola, cello, double bass, flute, oboe, clarinet, saxophone, bassoon, trumpet, french horn, trombone, baritone, tuba, harp.

i. Up to nine units of course weight in ensemble (small and/or large) will be permitted in each of the second, third, and fourth years of the program.

j. New first-year students are admitted to the Common First Year outlined in (a) above. Continuation in the BMus program (subject to promotion standards) or transfer to the BMus (Honors) program may be arranged with the Department subject to the approval of the Faculty of Arts.

(3) **Promotion:**

a. To be promoted to the next year of the program, students will normally be required to have a minimum cumulative grade point average of 6.0 plus the recommendation of the Department. A copy of the criteria for recommending promotion and graduation is available from the Department Office or the Student Programs Office, Faculty of Arts.

b. Successful completion of the program requirements includes a minimum grade point average of 5.5 in the final year of study.

c. Successful completion of a year and any related promotion will also normally require students to have taken at least 33 units of course weight during each regular academic year. The Department may recommend to the Dean of Arts exemption from this regulation.

d. Students who fail to meet the requirements for promotion stated in (a) must withdraw from the program. Such students may transfer to another program in the Faculty of Arts provided the entrance and promotion requirements for such a program are met. After transfer all requirements for the new program must be completed.

e. Students who fail to meet the fourth-year requirements in the program will be permitted to fulfill those requirements only with the approval of the Dean of Arts upon the recommendation of the Department. Otherwise, students must withdraw from the program and, if so desired, transfer to another program in the Faculty of Arts for which they are able to meet entrance and promotion requirements.

f. A BMus program may be interrupted only with the prior consent of the Department and continuation will be subject to any conditions, including reauditioning and new program requirements, that may be specified by the Department.

(4) **Residence Requirement:**

a. Students proceeding toward the BMus degree will normally have credit in at least 60 units of course weight offered by the University of Alberta.

b. Admission to the BMus program with transfer credits from other programs and institutions requires an overall grade point average of 6.0 with a GPA of 6.0 in music courses. General requirements are set out in §13.9.3.

c. The final year of the program will normally be taken in one regular academic year in attendance at the University of Alberta campus. The Department may recommend to the Dean exemption from this regulation.

d. When enrolled in the BMus program, students will normally take 33 units of course weight during each regular academic year. The Department may recommend to the Dean exemption from this regulation.

(5) **Academic Performance:**

a. To qualify for the Bachelor of Music degree, students must have successfully completed relevant curriculum requirements, have met the promotion, final year and residence requirements, and have received the recommendation of the Department.

b. Degrees with Distinction shall be awarded to students who achieve a grade point average of 7.5 or more, both on all of the units of course weight credited to the program and on all of the units of course weight in Music. In the case that transfer or other students have attempted, as part of their program courses at another institution, the Degree "with Distinction" will be awarded at the discretion of the Faculty.

BMus (Performance)

(1) **Admission**: Entrance to the BMus (Performance) program will ordinarily take place at the end of the first or second year of enrollment in the BMus program. Admission to the program is dependent on a minimum cumulative grade point average of 6.0 and the recommendation of the Department.

Candidates may choose from the following: piano, organ, voice, violin, viola, violoncello, double bass, flute, oboe, clarinet, saxophone, bassoon, trumpet, horn, trombone, baritone (i.e. baritone horn), tuba, percussion, harp.

(2) **Curriculum**: This consists of a total of 129 units of course weight with the required courses in the recommended sequence and other conditions as follows:

a. **Second Year**: MUSIC 204 and 205, 225, 240 or 241, 250, 251.

b. **Third year**:

1) Piano: MUSIC 303 and 304, 425, 439, 450, 451.
2) Organ: MUSIC 406, 425, 427, 450, 451.
3) Voice: MUSIC 320, 425, 440, 450, 451.
4) Strings and Harp: MUSIC 425, 439 and 441, 450, 451.
5) Wind and Percussion: MUSIC 425, 439 and 441, 450, 451.

c. **Fourth year**:

1) Piano: MUSIC 403 and 404, 461, 525, 526, 539.
2) Organ: MUSIC 433 and 444, 461, 525, 526, 531.
3) Voice: MUSIC 430, 461, 525, 526, 539, 540.
4) Strings and Harp: MUSIC 461, 525, 526, 539 and 541.
5) Wind and Percussion: MUSIC 461, 525, 526, 539 and 541.

d. Six units of course weight in a Language Other than English.

e. **Options**:

1) Piano and organ: six units of course weight in Music options, three units of course

weight in non-Music Arts or Science options, three units of course weight in non-Music Fine Arts options, six units of course weight in Music, Arts or Science options, and six units of course weight in senior options.

2) Voice, strings, wind and percussion: six units of course weight in Music options, three units of course weight in non-Music Arts or Science options, three units of course weight in non-Music Fine Arts options 12 units of course weight in Music, Arts or Science options, and three units of course weight in senior options.

3) Options must be approved by the Department.

f. Students will be required to present a junior and senior recital before graduation.

g. Students other than those who elect a keyboard instrument as an applied music subject are required to pass a keyboard proficiency examination (see §43.1.14(2)(g).)

h. Up to nine units of course weight in ensemble (small and/or large) will be permitted in each of the second. third, and fourth years of the program.

i. To be promoted to the next year of the program, students will normally be required to have (1) a minimum cumulative GPA of 6.0, and (2) the recommendation of the Department.

j. Successful completion of the program requirements includes a minimum GPA of 5.5 in the final year of study.

k. Successful completion of a year and any related promotion will also normally require students to have taken at least 30 units of course weight during each regular academic year. The Department may recommend to the Dean of Arts exemption from this regulation.

l. Students who fail to meet the requirements for promotion stated in (i,2) above must withdraw from the BMus (Performance) program. If their GPA meets the standard in (i,1) above, they may elect to transfer to the BMus program. If their GPA does not satisfy (i,1) above, they must withdraw from the Music program altogether. Such students may transfer to another program in the Faculty of Arts provided the entrance and promotion requirements to such a program are met.

m. Students who fail to meet the fourth-year requirements in the program will be permitted to fulfill those requirements only with the approval of the Dean of Arts upon the recommendation of the Department. Otherwise, students must withdraw from the program and, if so desired, transfer to another program in the Faculty of Arts for which they are able to meet entrance and promotion requirements.

n. A BMus (Performance) program may be interrupted only with the prior consent of the Department and continuation will be subject to any conditions, including re-auditioning and new program requirements that may be specified by the Department.

(3) a. Students proceeding toward the BMus (Performance) degree will normally have credit in at lease 60 units of course weight offered by the University of Alberta.

b. Admission to the BMus (Performance) program with transfer credits from other programs and institutions requires an overall grade point average of 6.0 with a GPA of 6.0 in music courses. General requirements are set out in §13.9.3

c. The final year of the program will normally be taken in one regular academic year in attendance at the University of Alberta campus. The Department may recommend to the Dean exemption from this regulation.

d. When enrolled in the BMus (Performance) program, students will normally take 33 units of course weight during each regular academic year except for the fourth year, during which 30 units of course weight will be taken. The Department may recommend to the Dean exemption from this regulation.

(4) **Academic Performance**:

a. To qualify for the Bachelor of Music (Performance) degree, students must have successfully completed relevant curriculum requirements; have met the promotion, final year, and residence requirements; and have received the recommendation of the Department.

b. Degrees with Distinction shall be awarded to students who achieve a grade point average of 7.5 or more, both on the units of course weight credited to the program and on all the units of course weight in Music. In the case that transfer or other students have attempted, as part of their program, courses at another institution, the Degree "with Distinction" will be awarded at the discretion of the Faculty.

BMus (School Music)

(1) **Admission requirements** are as set out in §13.2 and 13.4.2 of this Calendar. (This includes successful completion of the audition requirement.)

(2) **Curriculum**: This consists of a total of 132 units of course weight, with the required courses in the recommended sequence and other conditions as follows:

a. **First year**: ENGL 101 or 104/105, MUSIC 121, 140 or 141, 150, 151, 202, 203.

b. **Second year**: MUSIC 204, 205, 225, 240 or 241, 250, 251.

c. **Third year**: MUSIC 425, 440 or 441, 450, 451.

d. **Fourth year**: MUSIC 525.

e. **Other**: MUSIC 209, 211, 216, 217, 220, 230, 231, 315, 416 or 417 or 431, 462 or 207.

f. Six units of course weight in a Language Other than English.

g. **Options**: 18 units of course weight in non-music options. Up to six units of course weight options may be taken in Faculties other than Arts or Science. Students proceeding to the BEd/After Degrees in Music Education should consult §73.9 for admission requirements and note the requirements for a minor subject area.

(3) For additional requirements and regulations for the BMus in School Music, see §43.1.14(2)(g) through (5)(b).

43.1.15 The Degree of BMus (Honors) Program (Degree Code AR10)

(1) The BMus degree with Honors in Performance requires a minimum of 129 units of course weight, while the BMus with Honors in History and Literature, and Theory and Composition requires a minimum of 132 units of course weight. Normally, this program will be completed in four consecutive years of study during winter sessions. It provides for a greater degree of specialization in a chosen route.

(2) **Admission:** Entrance to the BMus Honors program will ordinarily take place at the end of the first or second year of enrollment in the BMus program (see §43.1.14). Admission to the program is dependent on a minimum GPA of 6.5 on the last 30 units of course weight with an average of 7.0 or better in all music courses and the recommendation of the Department.

(3) **Selection of courses:** The following regulations govern the BMus (Honors) program:

a. In each year an Honors student's program and every change of registration must be approved by the Departmental adviser.

b. Students' programs must include ENGL 101 or its equivalent.

c. Candidates in Performance (Voice) will be required to complete six units of course weight in each of two different languages other than English.

d. Candidates in Music History and Literature will be required to complete either 12 units of course weight in one language other than English or six units of course weight each in two languages other than English.

e. All other candidates will be required to complete six units of course weight in a language other than English.

f. Candidates in performance will be required to present a junior and a senior recital before graduation.

g. Candidates other than those who elect a keyboard instrument as an applied-music subject are required to pass a keyboard proficiency examination. See §43.1.14(2)(g).

h. Curricular patterns for each route of concentration are outlined below (see §43.1.15(5)).

(4) **Academic standing and graduation**: The following regulations govern the BMus (Honors) program:

a. To be promoted in each year students normally will be required to have a minimum GPA of 7.0 plus the recommendation of the Department. Graduation with First-Class Honors requires a GPA of 7.5 or better on all courses in the two final years or last 60 units of course weight. A copy of the criteria for recommending promotion and graduation is available from the Department Offices or the Student Programs Office, Faculty of Arts.

b. Students who fail to attain the standard necessary for continuance in Honors must withdraw from Honors. Such students may transfer to the BMus program or to another program in the Faculty provided they meet the requirements for such programs.

c. Students who are not recommended for graduation with Honors at the end of the fourth year may be granted the BMus degree forthwith, provided they have successfully completed 132 units of course weight including the various specifications of the BMus program (see §43.1.14). Students deficient in any respect may be required to take six or more units of course weight in a subsequent session.

d. A reduced course load (less than 30 units of course weight) in any year of an Honors program, or interruption of such a program or part-time study must be approved by the Department and by the Dean.

(5) **Routes of Concentration:**

a. **Performance**

1) **Keyboard:** Required courses in recommended sequence:
   i. **Second year:** MUSIC 204, 205, 221, 240, 241, 250, or 251.
   ii. **Third year:** MUSIC 303 and 304, or 406, 421, 427 or 439, 450, 451.
   iii. **Fourth year:** MUSIC 403 and 404 or 433 and 434, 461, 521, 526, 531, or 539.
   iv. Six units of course weight in a language other than English.
   v. **Options:** Nine units of course weight in music options, six units of course weight in non-music Arts or Science options, and six units of course weight in senior options.

2) **Strings:** Required courses in recommended sequence:
   i. **Second year:** MUSIC 204, 205, 221, 241, 250, 251.
   ii. **Third year:** MUSIC 421, 439, 441, 450, 451, 457.
   iii. **Fourth year:** MUSIC 458, 459, 461, 521, 526, 539, 541.
   iv. Six units of course weight in a language other than English.
   v. **Options:** Six units of course weight in music options, six units of course weight in non-music Arts or Science options, and six units of course weight in senior options.

3) **Voice:** Required courses in recommended sequence:
   i. **Second year:** MUSIC 204, 205, 221, 240, 250, 251.
   ii. **Third year:** MUSIC 320, 421, 440, 450, 451.
   iii. **Fourth year:** MUSIC 430, 435, 439, 461, 521, 526, 540.
   iv. Twelve units of course weight, each in a different language other than English.
   v. **Options:** Six units of course weight in music options, six units of course weight in non-music Arts or Science options, and three units of course weight in senior options.

4) **Winds and Percussion:** Required courses in recommended sequence:
   i. **Second year:** MUSIC 204, 205, 221, 241, 250, 251.
   ii. **Third year:** MUSIC 421, 439, 441, 450, 451.
   iii. **Fourth year:** MUSIC 461, 521, 526, 539, 541.
   iv. Six units of course weight in a language other than English.
   v. **Options:** 15 units of course weight in music options, six units of course weight in non-music Arts or Science options, and six units of course weight in senior options.

b. **Music History and Literature:** Required courses in recommended sequence:

i. **Second year:** MUSIC 204, 205, 225, one of 240 or 241, 250, 251.
ii. **Third year:** MUSIC 237, 425, 450, 451.
iii. **Fourth year:** MUSIC 461, 501, 502, 505.
iv. Either 12 units of course weight in one language other than English or six units of course weight each in two languages other than English.
v. **Options:** Nine units of course weight in music options, nine units of course weight in music history options, nine units of course weight in non-music Arts or Science options, and six units of course weight in senior options.

c. **Music Theory and Composition:** Required courses in recommended sequence:
i. **Second year:** MUSIC 204, 205, 225, 240 or 241, 250, 251, 259, 260.
ii. **Third year:** MUSIC 425, 444, 450, 451, 460.
iii. **Fourth year:** MUSIC 461.
iv. **Other:** MUSIC 462, 581.
v. Six units of course weight in a language other than English.
vi. **Options:** Nine units of course weight in music options, three units of course weight in music history options, nine units of course weight in music theory options, six units of course weight in non-music Arts or Science options, three units of course weight in senior options.

43.2 Anthropology

43.2.1 Honors in Anthropology

The BA with Honors is designed to provide both broad training in Anthropology and an opportunity to undertake independent work.

Entrance to Honors in Anthropology will ordinarily take place at the end of the first year of university study. Students planning to apply for admission to the Honors program should consult §43.1.2 for general program requirements and the department Honors adviser for first-year course selection which it is recommended should include ANTHR 101.

Honors in Anthropology requires a minimum of 48 units of course weight and, normally, a maximum of 60 units of course weight in Anthropology with at least three units of course weight from each of the following fields: physical anthropology, archaeology, linguistic anthropology, and social and cultural anthropology; additional requirements are the Honors seminars ANTHR 399 and ANTHR 499 (which include the Honors paper).

A minimum GPA of 6.5 with an average of 7.0 in Anthropology courses is required for admission to the Anthropology program; graduation with First Class Honors requires a GPA of 8.0 on all Anthropology courses beyond the junior and for first-class standing a GPA of 7.5 on all courses in the final year or last 30 units of course weight.

43.2.2 Concentration and Second Subject in Anthropology

(1) **The Degree of BA**

a. See §43.1.1.

b. Concentration in Anthropology offers a broad, holistic approach to the discipline yet provides an opportunity to specialize in one of the subareas: archaeology/paleo environmental studies; cultural anthropology, including general theory and regional ethnology; physical anthropology/primatology; and symbolic, linguistic, and cognitive studies. Courses at the 400-level offer substantial anthropological method and theory content. Students seeking to concentrate in Anthropology are advised to consult the Undergraduate adviser with respect to the selection of required courses and options. The following requirements must be met in order to complete a concentration in Anthropology: ANTHR 101 or 201; 306, 307, 308, 309; three units of course weight in regional ethnology selected from 246, 250, 255, 261, 262, 270, 271, 274, 277 through 285; 400; and 415.

c. Anthropology as a second subject requires the following: ANTHR 101 or 201; one of ANTHR 306, 307, 308, or 309; and six units of course weight in Anthropology at the 400-level.

(2) **The Degree of BA General**

a. See §42.4 (9).

b. The Department advises the following sequences:

18 units of course weight sequence: ANTHR 101 or 306 and 307; 308, 309 or three units of course weight in a regional ethnology course; six units of course weight at the 400-level.

24 units of course weight sequence: ANTHR 101 or 306 and 307; 308 and 309; three units of course weight in a regional ethnology; six units of course weight at the 400-level.

30 units of course weight sequence: ANTHR 101 or 306 and 307; 308 and 309; three units of course weight in regional ethnology and 12 units of course weight of senior courses in the subdiscipline or area of specialization.

(3) **The Degree of BA (Special):** See §42.4(9)

43.3 Art and Design

43.3.1 Honors in History of Art and Design

Entrance to Honors in History of Art and Design will ordinarily take place at the end of the first year of university study. Entrance may be granted by the department at an earlier or later stage depending on circumstances. Students planning to apply for admission to the Honors program should consult §43.1.2 for general program requirements and the department Honors adviser for first-year course selection which it is recommended should include ART H 101/102, and a language other than English (normally French, German or Italian).

Honors in the History of Art and Design requires a minimum of 54, a maximum of 60 units of course weight in Art History including: ART H 271/272, 281/282, and two from ART H 273/274/283; at least 12 units of course weight taken in seminars at the 400- or 500-levels; ART H 501 (the Honors essay) for which preparation will commence in the third year in consultation with the departmental adviser; six units of course weight at the senior level in a Language other than English (normally French, German or Italian).

A minimum GPA of 6.5 with an average of 7.0 or better in Art History courses is required for admission, continuance and graduation with Honors; graduation with first-class Honors requires a minimum GPA of 8.0 on all History of Art and Design courses at the senior level and a GPA of 7.5 or better on all courses in the final year or last 30 units of course weight.

43.3.2 Concentration and Second Subject in Art and Design

(1) **The Degree of BA:** The Department of Art and Design offers areas of concentration in studio disciplines and in the History of Art and Design. Five specializations are included in studio: Painting, Printmaking, Sculpture, Industrial Design, and Visual Communication Design. The program allows for high concentration in any of these as well as for different combinations of them. For regulations concerning the programs in general, please consult §43.1.1. For information relating to courses in Art and Design, consult §44.5. The Department of Art and Design also offers a BFA degree (§43.1.12) and a BA Honors in Art History (§43.3.1), in addition to graduate programs.

If you wish to concentrate in Art and Design, please contact the Department's student adviser. If you consider a concentration in Studio, you are advised to take ART 131 in your first year as your Fine Arts core requirement in order to have access to senior courses in year two.

Art and Design as a second subject: See §43.1.1.

(2) **The Degree of BA (General):** See §42.4(9).

(3) **The Degree of BA (Special):** See §42.4(9). Completion of a BA (Special) degree with concentration in Art and Design will require a minimum of 18 units of course weight taken in this Department or 50 percent of the units of course weight declared for the principal area of concentration, whichever is greater.

For the degree of BFA in Art and Design, see §43.1.12.

43.4 Canadian Studies

43.4.1 Honors and Combined Honors in Canadian Studies

The BA Honors in Canadian Studies can be de signed around a single disciplinary specialization, pr specialization across two disciplines, or a multidisciplinar topical specialization (e.g. Alberta studies, northern studies)

Specialization in a single discipline, especially His tory, Political Science, English, French, or French-Cana dian, permits a Combined Honors degree in that disciplin and Canadian Studies; this pattern should be elected i the first year. A Combined Honors degree in Canadia Studies and a discipline requires a minimum of 36 unit of course weight in that discipline, and 54 Canadian content units of course weight of which six are th honors essay (See §43.1.2).

Except for students contemplating Combined Honors entrance to Honors in Canadian Studies will ordinarily take place at the end of the first year of university study Students should consult §43.1.2 for general Honor program requirements and also consult the Canadian Studies Honors adviser for first-year course selection which must include six units of course weight of junio English and should include six units of course weight o junior French.

Honors in Canadian Studies requires a minimum o 54 units of course weight with a primary emphasis on the study of Canada as approved by the Canadian Studies Committee, which must include: six units of course weigh in Canadian history, six units of course weight in Canadian political science, six units of course weight in Canadian literature, which may be chosen from courses offered in the department of English, Romance Languages or Comparative Literature, three units of course weight Canadian Fine Art, CANST 350, CANST 450, six additional units of course weight in CANST courses, and CANST 520 (or INT D 520 for Combined Honors students), the honors essay. The topic for the essay, which is interdisciplinary or cross-disciplinary in nature, will be chosen in consultation with the Honors adviser towards the end of the third year and written during the fourth year under the supervision of at least two faculty members who shall be from different departments.

Language requirement: Students in Canadian Studies must demonstrate competence in written and spoken French by completing six senior-level units of course weight in French or French-Canadian or six approved senior-level Canadian content units of course weight taught in French. With the approval of the Canadian Studies Program adviser, students may satisfy the language requirement with comparable competency in a Canadian aboriginal language.

A minimum GPA of 6.5 with an average of 7.0 or better in all CANST and Canadian-content units of course weight required for the degree is required for admission, continuance and graduation with Honors; graduation with First-Class Honors requires a minimum GPA of 8.0 on all CANST and Canadian-content units of course weight in the two final years and 7.5 or better on all units of course weight in the two final years or last 60 units of course weight.

43.4.2 Concentration and Second Subject in Canadian Studies

(1) The Degree of BA (Canadian Studies)

a. See §43.1.7.

(2) The Degree of BA

a. See §43.1.1.

b. Canadian Studies cannot be taken as a subject of concentration in the Degree of BA (AR20).

c. Canadian Studies as a second subject in the Degree of BA (AR20): CANST 200 or approved equivalent in CANST courses; six additional CANST units of course weight at the 300-level; six CANST units of course weight at the 400-level. Note: Students seeking credit in CANST 350, or any 400-level CANST courses, should consult the Canadian Studies Program before registering.

43.5 Classics

43.5.1 Honors in Classics

Entrance to Honors in Classics ordinarily takes place at the end of the first year of university study.

nts planning to apply for admission to the Honors am should consult §43.1.2 for general program ements and the Department's Honors adviser for ear course selection which should include LATIN nd GREEK 100.

nors in Classics requires, as the language com- nt, GREEK 100, 300; LATIN 100, 300; 12 units of e weight in Greek authors, and 12 units of course t in Latin authors; as the Classics component, the am requires 15 units of course weight in Classics a senior level (at least one of these to be at the 400), and CLASS 500 Fourth Year Honors Tutorial. : CLASS 500 may, in certain circumstances, be ced by three units of course weight at the 500-level reek or Latin; consultation with the Department is ired.)

Combined Honors: A Combined Honors degree in or Greek and another discipline requires 36 units urse weight including a 100- and a 300-level course e language with a minimum of 30 units of course ht at the senior level in another discipline. Approval e program by both departments' Honors advisers is ired (see §43.1.2).

A minimum GPA of 6.5 with an average of 7.0 in sics or Latin and Greek courses is required for ission to the program; graduation with First-Class ors requires a minimum GPA of 8.0 on all depart- ital courses taken in the last two years and a GPA of or better on all courses in the two final years or last nits of course weight.

5.2 Concentration and Second Subject in Classics

The Degree of BA:

a. See §43.1.1.

b. Major areas of concentration:

1) **Classics:** minimum of 30, maximum of 42 units of course weight at the senior level with at least 12 units of course weight at the 400-level.

2) **Greek:** minimum of 30, maximum of 42 units of course weight at the senior level with at least 12 at the 400-level.

3) **Latin:** minimum of 30, maximum of 42 units of course weight at the senior level with at least 12 at the 400-level.

4) Any combination of the above, totalling a minimum of 30 and a maximum of 42 units of course weight at the senior level with at least 12 at the 400-level.

c. **Second subject:** Six units of course weight at the 400-level in Classics, Greek or Latin. This option does not apply to students majoring in (b)(4) above.

The Degree of BA (General):

a. See §43.1.3(2)d.

b. Both Greek and Latin may be started at University (GREEK 100, LATIN 100). GREEK 100 and LATIN 100 are followed by GREEK 300 and LATIN 300. Eighteen to 30 units of course weight sequences are available in Greek, Latin, or in Classics (Ancient History, Art, or Literature in Translation).

Degree of BA (Special)

a. See §42.4(9).

b. Thirty to 48 units of course weight sequences in the subjects as listed in (1)b, above. Additional programs may be arranged in Greek Studies and Roman Studies.

43.6 Comparative Literature

43.6.1 Honors in Comparative Literature

Entrance to Honors in Comparative Literature will ordinarily take place at the end of the first year of university study. Students planning to apply for admission to the Honors program should consult §43.1.2 for general program requirements and the department's Honors adviser for first-year course selection which it is recommended should include C LIT 100, and a language other than English. Continuing students must have their program and changes of registration approved by the Honors Adviser:

The Department offers four different Honors programs:

(1) Comparative Literature with an emphasis on literary studies and the study of a second language.

A program of study in Comparative Literature with an introductory study of several literatures (usually in translation) and a basic knowledge of a language other than English. (Please note that independent study through summer language courses or study abroad is strongly recommended in order to achieve an adequate level of proficiency in the language selected.) Program requirements consist of 48 units of course weight in Comparative Literature, 12 in one language other than English, and 24 in a minimum of three different national literatures.

(2) Comparative Literature with an emphasis on the study of one language and literature other than English.

A program of study consisting of 48 units of course weight in Comparative Literature and 36 in one language and literature other than English. The language selection must be made from the list of languages taught at the University of Alberta and for which there exists at least six units of course weight at the 400-level.

(3) Comparative Literature with the study of two languages and literatures.

A program which places the accent on the study of literary relations between two or more national literatures. In addition to a minimum of 24 units of course weight in Comparative Literature, including six on questions of influence and reception, students are required to take an equal number of units of course weight (usually 30) in each national literature selected.

(4) **Combined Honors**: A program of study which allows students to study in two departments. It is particularly suitable for students who wish to specialize in interrelation studies, for instance literature and fine arts or music, or English and the international study of the theory of literature.

Program requirements consist of an equal number of units of course weight in each department (minimum of 36) and a course selection which conforms to Honors requirements in the respective departments.

Please note that combined honors students seeking admission to the graduate program in Comparative Literature may be required to do additional work in a language other than English.

Language Requirements: As the study of one language other than one's mother tongue is an essential requirement of the Honors program in Comparative Literature, students are required to pursue language studies beyond the language of matriculation. It is therefore expected that program (2) and (3) students will enroll in a 100-level language course and continue studying this language up to the 400-level.

Selection from the following pattern is required of students in Honors programs noted above in (1) and (2). A special course of study will be arranged for students in programs noted above in (3) and (4).

a. C LIT 100 in year I, or C LIT 201/202 in year II.

b. Core Courses (at least 18 units of course weight).

1) Introduction to Periods and Movements: C LIT 320, 330, 362, 376, 475.

2) Introduction to Western Criticism and Theory: C LIT 348, 349, 450.

3) History of Comparative Literature: C LIT 455.

c. World Literature (up to 15 units of course weight with at least six in any of the following subtopics):

1) Literary Relations: C LIT 414, 415.

2) Themes and Motifs: C LIT 266, 358, 359 .

3) Third World, African, Latin American, Caribbean, Modern Middle, Eastern: C LIT 355, 356, 357, 363, 491, 492.

4) Comparative Canadian Literature: C LIT 171, 172, 371, 372, 373, 472, 473.

d. Poetics (up to 15 units of course weight):

1) Criticism and Theory: C LIT 447, 470.

2) Genre Studies: C LIT 244, 245, 246, 341, 342, 440, 464.

3) Interrelation Studies: C LIT 354, 375, 465, 474.

(5) Beginning in 1993, all fourth-year students will take an Honors Tutorial and will write an Honors essay of a nature to be determined by the Department.

A minimum GPA of 6.5 with an average of 7.0 or better in Comparative Literature courses is required for admission to the program; graduation with First-Class Honors requires a minimum GPA of 8.0 on all Comparative Literature courses at the senior level and a GPA of 7.5 or better on all courses in the final year or last 30 units of course weight.

43.6.2 Concentration in Comparative Literature

(1) **The Degree of BA:**

a. See §43.1.1.

b. In order to fulfill the minimum Faculty concentration requirements, students will normally take C LIT 100 in the first year to prepare for the major, six senior Comparative Literature units of course weight in the second year, 12 senior Comparative Literature units of course weight in the third year, and 12 400-level Comparative Literature units of course weight in the final year

Students who do not prepare for the major in the first year will normally take C LIT 201/202 in the second year, 12 senior Comparative Literature units of course weight in the third year, and 18 senior Comparative Literature units of course weight (12 of which must be at the 400-level) in the final year.

c. A maximum of six units of course weight of F ST 200, 205, 311, 312, 313 and 314 are acceptable towards a subject of concentration in Comparative Literature (see §44.16 for F ST courses).

d. Comparative Literature as a second subject: See §43.1.1.

(2) **The Degree of BA (General):** See §42.4(9).

(3) **The Degree of BA (Special):** See §42.4(9).

43.7 Drama

43.7.1 Honors in Drama

The Honors program offers the exceptional student an opportunity for intensive study in Drama. Since the performed play is the object of exploration, knowledge of dramatic literature, theatre and aesthetics is as essential as familiarity with the creative process of theatre art. The program is, therefore, flexible enough to embrace both components. Students are encouraged to participate in departmental productions.

Entrance to Honors will ordinarily take place at the end of the first year of university study. Students planning to apply for admission to the Honors program should consult §43.1.2 for General program requirements and the department Honors adviser for first-year course selection which should include DRAMA 101/102.

Honors in Drama requires a minimum of 48, maximum of 66 units of course weight in Drama including DRAMA 101/102, 350/353, 379/391 and 500; and the following Honors core courses: DRAMA 304, 400 and 505 (Tutorial and Essay) which, under the supervision of a member of the department, will be commenced in the spring of the third year and continued throughout the fourth. The Honors seminars DRAMA 405 and 503 are required in addition to normal course requirements. Proficiency in one language other than English must be demonstrated either by taking six units of course weight at the senior level or by passing a departmental competency test.

A minimum GPA of 6.5 with an average of 7 or better in Drama courses is required for admission into the program; promotion from year to year requires a minimum GPA of 6.5 with a grade of 7.0 or better in the Honors core Drama courses and the Honors seminars; graduation with First-Class Honors requires a minimum GPA of 8.0 on all Drama courses in the last two years and 7.5 or better on all courses in the two final years or last 60 units of course weight.

43.7.2 Concentration and Second Subject in Drama

(1) **The Degree of BA:**

a. See §43.1.1.

b. Concentration in Drama requires DRAMA 101 and DRAMA 102 as foundation courses which should be taken in the first year and which fulfill the requirements for a Fine Arts Core Requirement. At the senior level, the Department requires a minimum of 30 and a maximum of 42 units of course weight in Drama. The program

requires core courses in Theatrical History (DRAMA 304), Acting (DRAMA 350 and 353), and Production (DRAMA 379 and 391). Twelve units of course weight chosen from these should be taken in the second year, with completion of core courses in the third year. Further courses are available in acting, design, directing, improvisation, oral communication, playwriting, technical theatre, theatre history, and youth drama. Students may select Drama options to obtain broad exposure to theatre, or may focus on specific areas of interest.

The sequential nature of the program requires careful planning of third- and fourth-year choices. Students must obtain program approval from the Department of Drama each year, prior to registration.

c. **Drama as a Second Subject:** Students are advised that most 400-level Drama courses have specific prerequisites, and need consent from the Department. Students interested in Drama as a second subject are advised to take DRAMA 149 and DRAMA 101 as their Fine Arts Core Requirement, and obtain registration approval from the Department prior to registration in any Drama course.

(2) **The Degree of BA (General):**

a. See §42.4(9).

b. Students presently enrolled in, and thus now completing this program, are advised that the Department recommends 30 units of course weight including core courses DRAMA 304, 350, 353, 379, 391, and 12 units of course weight in Drama. Registration approval must be obtained from the Department of Drama prior to registration in any Drama course.

(3) **The Degree of BA (Special)**

a. See §42.4(9).

b. Students presently enrolled in, and thus now completing this program are advised that the Department requires a minimum of 36 units of course weight in Drama and recommends the inclusion of core courses DRAMA 304, 350, 353, 379, and 391. Most senior courses require consent in addition to other prerequisites. Program approval must be obtained from the Department of Drama each year prior to registration.

For the degree of BFA in Drama, see §43.1.13.

43.8 East Asian Languages and Literatures

43.8.1 Honors in East Asian Languages and Literatures

Entrance to Honors in East Asian Languages and Literatures will ordinarily take place at the end of the first year of university study. Students planning to apply for admission to the Honors program should consult §43.1.2 for general program requirements and the department Honors adviser for first-year course selection.

The department offers four Honors programs:

(1) A program of study in either Chinese or Japanese which will consist of a minimum of 48 units of course weight in either of the two languages.

(2) A program of study which will consist of a combination of Chinese and Japanese including a minimum of 36 units of course weight in one of the two languages and a minimum of 12 in the other.

(3) A Combined Honors program which will consist of either Chinese or Japanese and one other discipline. A minimum of 36 units of course weight will be required in each discipline.

(4) A Combined Honors program which will consist of either Chinese or Japanese and East Asian Studies. This program will consist of a minimum of 36 units of course weight in either of the two languages plus 36 units of course weight taken from the list of approved courses for the BA (Special) degree in East Asian Studies. In this case, approval for the East Asian Studies component will be granted by the chair of the East Asian Studies Committee.

In each of the programs listed above, the maximum number of units of course weight to be taken in either discipline of the Department is 60.

A minimum GPA of 6.5 with an average of 7.0 or better in Chinese and Japanese courses is required for admission to the program; graduation with First-Class Honors requires a minimum GPA of 8.0 on all East Asian Languages and Literatures courses in the last two years and a GPA of 7.5 or better on all courses in the two final years or last 60 units of course weight.

43.8.2 Concentration and Second Subject in East Asian Languages and Literatures: Chinese, Japanese

(1) **The Degree of BA:** Programs of study in the Department of East Asian Languages and Literatures for the BA degree include concentrations in Chinese, Japanese and a combination of both. Students intending to major in one of these areas are strongly advised to begin with the intensive route in the first year: I.e. CHINA or JAPAN 100 and 200. Students wishing to take a second subject in either Chinese or Japanese are strongly advised to take either CHINA or JAPAN 100 and 200 before proceeding to any of the 400-level courses. Students who wish to combine a study of the two languages will be required to have a minimum of 24 units of course weight in one of the languages and a minimum of 12 in the other.

Students with a background in one of the languages should consult with the Department before making course selections.

All prospective students are asked to contact the Department for information, advice and program planning. For general program requirements, consult §43.1.1.

(2) **The Degree of BA (General):** See §42.4(9).

(3) **The Degree of BA (Special):** See §42.4(9).

(4) **The Degree of BA (Honors):** See §43.8.1.

43.8.3 The Degree of BA (East Asian Studies)

See §43.1.5.

43.9 Economics

43.9.1 Honors in Economics

Entrance to Honors in Economics will ordinarily take place at the end of the first year of university study. Entrance may be granted by the Department at an earlier or later stage depending on circumstances. Students planning to apply for admission to the Honors program should consult §43.1.2 for general program requirements and the department Honors adviser for first-year course selection which it is recommended should include ECON 101/102, MATH 113/120 or equivalent (Note: Mathematics and statistics courses fulfill the Faculty requirement for six units of course weight in Formal Studies).

Honors in Economics requires a minimum of 54 and a maximum of 60 units of course weight in Economics including ECON 281/282, ECON 384, ECON 386/387, ECON 407/408, ECON 481/482, STAT 255 or equivalent. ECON 386/387 should be taken in the third year of the program and ECON 407/408 should be taken in the fourth year.

Additional courses in mathematics, especially MATH 115 and 121, statistics and computing science are recommended as options. ECON 401/402 are highly recommended for students contemplating graduate school.

A minimum GPA of 6.5 with an average of 7.0 or better in Economics courses is required for admission to the Honors program; graduation with First-Class Honors requires a minimum GPA of 8.0 on all Economics courses beyond the 100-level and a GPA of 7.5 or better on all courses in the final year or last 30 units of course weight.

43.9.2 Honors in Economics and Mathematics

See §43.1.2 for Faculty regulations concerning the Honors program.

First and Second Years:

ECON 101/102, ECON 281/282, MATH 117/118, MATH 217/218, STAT 265/266.

Third and Fourth Years:

ECON 386/387, ECON 407/408, 481/482, M[illegible] 227, at least one additional Economics option, at [illegible] one additional MATH/STAT option.

Each program must have the approval of the [illegible]partments of Economics and Mathematics. It is [illegible]ecommended that students have at least one course [illegible] Computing Science.

43.9.3 Concentration and Second Subject in Economics

(1) **The Degree of BA:**

a. See §43.1.1.

b. For students concentrating in Economics [illegible] following courses are required: ECON 101/1[illegible] MATH 113 or equivalent, STAT 255 or equi[illegible]lent, ECON 281/282 and ECON 384 and eit[illegible] ECON 399 or ECON 407/408.

Notes:

1) In order to have the greatest possible fle[illegible]ibility in their choice of the 300- and 40[illegible] level courses required to complete [illegible] concentration in Economics, students a[illegible] advised to complete **all** the departmen[illegible] requirements listed above earlier rather th[illegible] later in their programs. In particular, it [illegible] highly desirable that students complete t[illegible] ECON 101/102, MATH 113, STAT 25[illegible] ECON 281/282, and ECON 384 requiremen[illegible] as part of their first 60 units of cour[illegible] weight. Furthermore, students should no[illegible] that MATH 113 is a prerequisite for STA[illegible] 255 which in turn is a prerequisite f[illegible] ECON 399. Thus, students who have n[illegible] started the sequence by their second ye[illegible] may not be able to graduate in four years[illegible] Students are urged to begin the sequenc[illegible] with MATH 113 as soon as possible, pre[illegible]erably in their first year.

2) No substitutes for STAT 255 will be accepte[illegible] without formal consent of the Department.

3) Students who have obtained credit in STA[illegible] 141 (formally 241) or equivalent may, with[illegible] written permission from both Economic[illegible] and Statistics Departments, enroll in STA[illegible] 255. However, they must declare one o[illegible] those two statistics courses extra to thei[illegible] degree.

4) Completion of STAT 255 satisfies the For[illegible] mal Studies requirement of the BA degree.

c. **Economics as a second subject**: All courses offered by the Department of Economics at the 400-level require, at least, the prior completion of either ECON 281 or ECON 282. Some 400-level Economics courses require both. Students interested in Economics as a second subject should take the appropriate prerequisite(s) prior to their fourth year to allow themselves access to 400-level Economics courses.

d. If students concentrating in Economics select Mathematics as their second subject, the following courses are recommended: MATH 113/115, MATH 120/121 and MATH 214/215; and two of MATH 334, MATH 347, MATH 373, MATH 432 and MATH 447.

e. If students concentrating in Economics select Statistics as their second subject, the following courses are recommended: STAT 255, STAT 265, STAT 266 and two of STAT 361, STAT 377, STAT 466, STAT 471, and STAT 479. It is recommended that students taking Statistics as a second subject take ECON 407 and ECON 408 instead of ECON 399.

(2) **The Degree of BA (General):**

a. See §42.4(8).

b. General program students who may wish to transfer to the Honors program or to proceed later to graduate study in Economics should consult the Department. Such students are reminded that basic courses in Calculus, Linear Algebra, and Statistics are prerequisites to graduate work in the Department. **Note:** 400-level courses in Economics presume some familiarity with calculus.

(3) **The Degree of BA (Special):**

a. See §42.4(8).

b. The Department requires ECON 281/282, STAT 255 or equivalent, and ECON 399 of students in this program; students interested in graduate work in the Department are reminded that basic

course work in Calculus, Linear Algebra, and Statistics are prerequisites for such study. Note: 400-level courses in Economics presume some familiarity with calculus.

c. If the second subject is Mathematics, MATH 113/115, MATH 120/121, MATH 214/215 and STAT 265/266 are strongly recommended.

3.10 English

3.10.1 Honors in English

There is no admission to first-year Honors in Eng-n. Students planning to enter the second year of the ogram should consult §43.1.2 of the Calendar for neral program requirements and the Chair of the partment Honors Committee (the Honors Adviser) for vice on first-year course selection which should in-ude the following: ENGL 101 or its equivalent; six units course weight in a language other than English; six its of course weight in an approved Philosophy and/or story and/or Classics course(s); six units of course eight in approved Science and/or Formal Studies courses, d at least three units of course weight in each of Fine ts and Social Sciences. Students deciding during or at e end of the first year to undertake Honors in English ust consult the Honors Adviser at the earliest possible oment in order to ascertain that their first-year courses ovide an adequate basis, or to discuss what extra ork should be taken to rectify the situation. The normal quirements of the program are set out below. Variations the program (including directed reading courses) eed the permission of the Honors Adviser.

In the second, third and fourth years of the program minimum of 54 and a maximum of 66 senior English nits of course weight is required, including ENGL 532 Tutorial), which will be commenced in the spring of the ird year and continued throughout the fourth. The onors seminars, ENGL 510, 520, 530, are required in ddition to normal course requirements.

Choice of senior courses:

(1) **Required:** ENGL 201, and six units of course weight in each of the following areas:

a. Old and Middle English; courses numbered ENGL 220-229, 320-329, 420-429.

b. Early Renaissance Literature, including Shakespeare: courses numbered ENGL 230-239, 330-339, 430-439.

It is strongly recommended that Honors students take six units of course weight in Shakespeare.

c. Later Renaissance Literature, including Milton; Restoration and Eighteenth-Century Literature: courses numbered ENGL 240-249, 340-349, 440-449.

d. Romantic and Nineteenth-Century Literature: courses numbered ENGL 250-259, 350-359.

e. Twentieth-Century British and American Literature: courses numbered ENGL 260-269, 360-369.

f. Canadian Literature: courses numbered ENGL 270-279, 370-379, 470-479.

Note: All Honors English students will be required to take 12 English units of course weight at the 400-level. As the content of these courses varies from year to year, students should check with the Department of English Honors Adviser to see which group requirements will be met by 400-level courses that are not included in the above list.

(2) **Strongly Recommended**: A genre course (drama, the novel, poetry).
Language requirements: Students must satisfactorily complete six units of course weight at a senior level in a language other than English.

Admission to Honors English requires a minimum GPA of 7.0 on the last 30 units of course weight, as well as a minimum GPA of 7.0 in English courses (at least six units of course weight). A GPA of 6.5, with a GPA of 7.0 or better in all English courses for any year, is required for promotion. Effective May, 1989, graduation with First-Class Honors requires a minimum GPA of 8.0 on all English courses beyond the junior level, with the seminars (weighted) included, and a GPA of 7.5 or better on all courses in the final year or the last 30 units of course weight. Graduation in Honors English requires a GPA of 6.5 with a GPA of 7.0 or better in all English courses of the last three years of the program.

Note: Students who entered the Honors program prior to May 1989 may continue to meet the graduation requirements then in effect.

43.10.2 Concentration and Second Subject in English

(1) **The Degree of BA:**

a. See §43.1.1.

b. Concentration in English requires a minimum of 30 and a maximum of 42 units of course weight at the 200-level or above. Faculty regulations stipulate that these must include 12 units of course weight at the 400-level. In addition to ENGL 201, the concentration will include at least 12 units of course weight in English literature before 1800 (ENGL courses numbered 220-249, 320-349, 420-449).

c. Unless otherwise stated, the prerequisites for 400-level courses are as follows:

ENGL 101 (prerequisite to all senior courses)

ENGL 201

Six units of course weight in 300-level English courses.

Notes:

i. Certain 300- and 400-level courses have specific 200-level and/or 300-level prerequisites.

ii. ENGL 201 may be taken concurrently with 300-level courses but the Department strongly recommends that it be taken in second year, before 300-level courses.

iii. It is strongly recommended that English majors take six units of course weight in Shakespeare.

d. **English as a second subject**: ENGL 101, 201, six units of course weight at the 300-level, and six units of course weight at the 400-level.

e. Students taking English as a major concentration or as a second subject are strongly recommended to consult with the Department BA Adviser on their choice of courses. This is of crucial importance in entering third year.

f. The major concentration in English is **not** designed to meet specific requirements for entrance into graduate programs in the Department of English; students desiring such preparation should consult the Graduate Committee Chair before enrolling in the third year of the BA program.

(2) **The Degree of BA (General):**

a. See §42.4(9).

b. Students who choose English as a subject of concentration are advised to include in their program a language other than English.

(3) **The Degree of BA (Special):** See §42.4(9).

43.11 Film Studies

43.11.1 Concentration and Second Subject in Film Studies

(1) See §43.1.1.

(2) Concentration in Film Studies requires a minimum of 30 units of course weight and a maximum of 42 at the senior level (12 must be at the 400-level, of which three must be either 401, 402, or 404) in F ST and cross-listed Film Studies courses (see §43.11.1d). Students wishing to concentrate in Film Studies are advised to take F ST 200 as their Arts option in second year. F ST 200 is normally the prerequisite for all 300- and 400-level F ST courses, but not for F ST cross-listed courses.

(3) Film Studies as a second subject requires a minumum of 18 units of course weight in either F ST or cross-listed Film Studies courses at the senior level, six of which must include F ST 200 or 205. The required 400-level six units of course weight must be chosen from either the 400-level F ST courses or the cross-listed Film Studies courses.

(4) Cross-listed courses in Film Studies:
ART 131 Visual Fundamentals (★6)
FR CA 499 Directed Reading (★3 or ★6)

Note: More cross-listed courses will be identified. Please consult the Film Studies Adviser. These courses cannot be used by students concentrating in Film Studies to fulfill the requirement for the second subject of the BA (AR 20) degree.

43.12 Geography

43.12.1 Honors in Geography

The Department of Geography offers both the BA and the BSc degrees with Honors in Geography. Students wishing to stress the humanities and social sciences should register in the BA program; those wishing to stress the physical and biological sciences should register in the BSc program. The BA with Honors is designed to combine a broad training in Geography with an opportunity to develop special interest in some branch of the subject.

Entrance to Honors in Geography will ordinarily take place at the end of the first year of university study. Entrance may be granted at an earlier or later date depending on circumstances. Recommended courses include GEOG 130/131 (and 150/151 if admitted to the first year), and six units of course weight chosen from anthropology, economics, history, or sociology. In the second year, GEOG 150/151 should be taken. Students who enter the program after the end of the second year may substitute any pair of GEOG 244, 250, 264, 281, 359, or 370 in place of GEOG 150 and 151.

Honors in Geography requires a minimum of 54 and a maximum of 90 units of course weight; required courses include six units of course weight in Cartography, GEOG 220 and 222; 21 units of course weight in senior Arts geography, six units of course weight senior science geography, six units of course weight in regional geography. Students may elect to present an Honors thesis in their fourth year; to do this, they must contact the Departmental Undergraduate Program Committee by February 1 of their third year of the program and advance register for GEOG 453.

Promotion from year to year requires a minimum GPA of 6.5 with a minimum grade of 6.0 in Geography courses and in any course which is explicitly required by the department; graduation with First-Class Honors requires a minimum GPA of 8.0 on all Geography courses in the last 60 units of course weight.

43.12.2 Concentration and Second Subject in Geography

(1) **The Degree of BA:** See §43.1.1.

(2) **The Degree of BA (General):**

a. See §42.4(9).

(3) **The Degree of BA (Special):**

a. See §42.4(9).

43.13 Germanic Languages

43.13.1 Honors in German

Entrance to Honors in German will ordinarily take place at the end of the first year of university study. Students planning to apply for admission to the Honors program should consult §43.1.2 for general program requirements and the department Honors adviser for further information.

Honors in German normally requires 60 units of course weight equivalents in German, including GERM 301, 350, and GERM 505. GERM 330 or 340 is highly recommended for non-native speakers and GERM 411 and 412 for prospective graduate students.

A minimum GPA of 6.5 with an average of 7.0 or better in German courses is required for admission to the Honors program; graduation with First-Class Honors requires a GPA of at least 8.0 on all German courses in the last two years and a GPA of at least 7.5 on all courses in the two final years or last 60 units of course weight.

43.13.2 Combined Honors in German

A Combined Honors Degree in German and another discipline requires a minimum of 36 units of course

weight in German, of which at least 30 must be senior courses. These must include GERM 301, 350, and six units of course weight in literature at the 400-level.

43.13.3 Concentration and Second Subject in German

(1) **The Degree of BA:**

a. See §43.1.1.

b. The Faculty requires that students with a concentration in German take between 30 and 42 senior units of course weight, 12 of which must be at the 400-level. Students may select one of three routes:

1) Concentration in German Literature. This requires 30 to 42 senior units of course weight, including GERM 301, 350, and 12 400-level units of course weight in German Literature.

2) Concentration in Germanic Linguistics. This requires 30 to 42 senior units of course weight, including GERM 301, 306/307 or 308, and 12 400-level units of course weight in German Language/Linguistics (drawn from GERM 406, 407, 408, 409, 411, 412.) Students may also combine German and Scandinavian Language/Linguistics courses. For this option students should consult the undergraduate adviser.

3) Concentration in German Literature and Linguistics. This requires 30 to 42 senior units of course weight, including GERM 301, 306, 307 or 308, 350, and six 400-level units of course weight in German Literature and six in Germanic Linguistics. The Department encourages all students to consult with the undergraduate adviser.

Note A: Students should note in planning their programs that GERM 150/151 is the prerequisite for all senior level courses (with the exception of GERM 265, 221, and 222); that GERM 301 is the prerequisite for GERM 441/442; that GERM 306 is the prerequisite for GERM 406/407; and that GERM 350 is the prerequisite for all 400-level German literature courses with the exception of GERM 496 and 498.

Note B: GERM 301, 330, 340 and 350 may not be taken after completion of any 400-level German course except with special departmental permission.

Note C: German-speaking students and students beginning their studies with more than matriculation German may be admitted to courses numbered 301 and above in their first year, provided they pass a departmental placement test and obtain the permission of the Dean of Arts. Such students are required to consult with the Department before registration.

Note D: Courses in German culture and literature will be taught in German and texts will be read in German unless otherwise noted. Essays and examinations in these courses may generally be written in German or English, with no reward or penalty to the student for choosing one language rather than the other. However, those majoring in the BA (Honors), BA (Special), BA, and BEd programs must write at least one substantial essay in German in each course.

(2) **The Degree of BA (General):**

a. See §42.4(9).

b. Students may take any senior-level course after GERM 150 or 151 (except German 441/442), but are advised to discuss their course selections with the Department.

(3) **The Degree of BA (Special):**

a. See §42.4(9).

b. Students who want to develop a strong concentration in German language and literature and other disciplines supporting the study of German culture, such as History, Political Science, Philosophy or Music, should contact the departmental BA (Special) Adviser.

43.13.4 Combined Honors in Scandinavian

A degree with Honors in Scandinavian and another approved subject may be awarded. Such a program of study requires a minimum of 36 units of course weight in each subject. For the Scandinavian component the required courses are the same as for the major in Scandinavian (see §43.13.5(1)b).

43.13.5 Concentration and Second Subject in Scandinavian

(1) **The Degree of BA:**

a. See §43.1.1.

b. The Faculty requires that students with a concentration in Scandinavian take between 30 and 42 senior units of course weight, of which 12 units of course weight must be at the 400-level. The Department, however, normally requires the following courses as the minimum:

1) NORW 100 or SWED 100

2) NORW 200 or SWED 200

3) SCAND 340

4) SCAND 410

5) SCAND 475 or SCAND 480

6) Six more units of course weight at the 400-level

Note A: Students may take only one of NORW 100 and SWED 100, likewise only one of NORW 200 and SWED 200.

Note B: NORW 200 or SWED 200 are the prerequisites for all 400-level Scandinavian courses.

Note C: SCAND 410 is required for all students with a major subject of concentration in Scandinavian and is strongly recommended as pre- or co-requisite for all students in senior Scandinavian literature courses at the 400-level.

(2) **The Degree of BA (General):**

a. See §42.4(9).

b. The Department of Germanic Languages advises the following sequences:

1) For students beginning a Scandinavian language: NORW 100 or SWED 100 in the first year; SCAND 175 in the first or second year, NORW 200 or SWED 200, 340 or 351/352 in the second year; one or two of SCAND 340, 351/352, 400, 405, 475, or 480 in the third year.

2) For students with matriculation or equivalent: NORW 200 or SWED 200 in the first year; SCAND 175 in the first or second year, one or two of SCAND 340, 345, 351/352, 450, 475, 480 in the second year; one or two of SCAND 340, 345, 351/352, 450, 475, 480 in the third year.

(3) **The Degree of BA (Special):** See §42.4(9).

Note: Students fluent in one of the Scandinavian languages should consult the Department. In courses where the readings are in the original Scandinavian languages, essays and examinations may generally be written in a Scandinavian language or English, with no reward or penalty to the student for choosing one language rather than the other. However, those majoring in Scandinavian in the BA (Special) and the BA programs must write at least one essay in a Scandinavian language in each course.

43.14 History

43.14.1 Honors in History

Entrance to Honors in History will ordinarily take place at the end of the first or second year of university study. Students planning to apply for admission to the Honors program should consult §43.1.2 for general program requirements and the department Honors adviser for first-year course selections which it is recommended should include a 100-level History course.

In the remaining years of the Honors program students should select courses that will provide them with a broad background of historical knowledge ranging widely in place, time and perspective.

Honors students should have at least six units of course weight in any three of the following eight fields: Africa or Middle East, Asia, Britain, Canada, Latin America, Medieval or Classical, modern Europe, United States. Normally, students should take courses in two additional fields to provide them with the breadth intended in the History Honors Program. In certain circumstances courses in ancient history offered by the Department of Classics are accepted as the equivalent of history department courses. A historiography seminar, HIST 500, is required during the third year, while registration in HIST 501 allows for completion of the Honors essay required during the fourth year. Students prepare the Honors essay under the supervision of a member of the de ment. The department may require any studen addition to submitting the essay, to pass an or written examination on the subject of the essay. At 12 units of course weight are required in each o areas of the Honors essay and a second field. Stud must satisfy the department of their ability to rea language other than English. Examinations for purpose are conducted by the department and norn are written during the second or third year and in case must be written and passed for completion of degree.

A minimum GPA of 6.5 with an average of 7. better in History courses is required for admission to program; graduation with First-Class Honors require minimum GPA of 8.0 on all History courses in the two years and a GPA of 7.5 or better on all course the two final years or last 60 units of course weight.

43.14.2 Concentration and Secon Subject in History

(1) **The Degree of BA:**

a. See §43.1.1.

b. Students may count six units of course wei at the senior level and above from the follow Ancient History courses offered by the Dep ment of Classics towards a major concentrat in History:
CLASS 230, 231, 363, 364, 369, 370, 3 374, 460, 461, 462, 463, 464, 465, 466, 4 469, 470, 471, 472, 499.

c. History as a second subject: 18 units of cour weight in History, including six at the 400-lev Students may count three units of course weig from the following Ancient History courses fered by the Department of Classics : CLA 110, 230, 231, 363, 364, 369, 370, 373, 37 460, 461, 462, 463, 464, 465, 466, 467, 4 470, 471, 472, 499 towards a second subject History.

(2) **The Degree of BA (General):**

a. See §42.4(9).

b. The Department offers the following advic Students who select History as a principal sul ject of concentration are advised to take HIS 120 or CLASS 110/HIST 110 in their first yea However, students may, except when a prere uisite is specifically required, take any senio History course (those in the 200 range) in the second or third year without a previous cours in History. Students in their third year shou choose an advanced course (in the 400 range only if they have taken at least 12 previou units of course weight in History, though excep tions may be made in the case of students wit special interest and an adequate background i other related disciplines. Advanced courses ar provided for third-year students who wish som specialization within areas covered generall by senior courses.

(3) **The Degree of BA (Special):** See §42.4(9).

43.15 Linguistics

43.15.1 Honors in Linguistics

The Department of Linguistics offers courses leading to the BA degree with Honors in Linguistics.

Entrance to Honors in Linguistics will ordinarily take place at the end of the first year of university study. Students planning to apply for admission to the Honors program should consult §43.1.2 for general program requirements and the department Honors adviser for first-year course selection.

Honors in Linguistics requires a minimum of 48 units of course weight including LING 203, 204, 317 or 318, 400, 405, 407 or 315, 409, 410, 501 and 502; a minor of 24 or 30 units of course weight in a field such as Anthropology, Classics, East Asian Languages and Literatures, English, Germanic Languages, Psychology, Romance Languages, or Slavic and East European Studies.

A minimum GPA of 6.5 with an average of 7.0 or better in Linguistics courses is required for admission, continuance, and graduation with Honors in Linguistics. Graduation with First-Class Honors requires a minimum GPA of 8.0 on all Linguistics courses beyond the junior level and a GPA of 7.5 or better on all courses in the final year or last 30 units of course weight.

.15.2 Concentration and Second Subject in Linguistics

The Department of Linguistics offers courses leading to the BA degree. Students are urged to consult the partment of Linguistics regarding the following degrees and their program sequences:

The Degree of BA:

a. See §43.1.1.

b. Students majoring in Linguistics must include the following courses in their program: LING 203, 204, 405, 407 or 315, 409 and 410.

The Degree of BA (General):

a. See §42.4(9).

b. In all cases, the program must include LING 203 and 204.

The Degree of BA (Special):

a. See §42.4(9).

b. The BA Special Program in Linguistics is designed to give the student a broader background in Linguistics than the General Degree. The program should be arranged in consultation with the Department, and will include:

1) at least 30 units of course weight in Linguistics, to include LING 203, 204, 405, 407 or 315, 409, 410;

2) Twenty-four or 30 units of course weight in an appropriate minor field of concentration (see §43.1.4).

3.16 Mathematics

3.16.1 Honors in Mathematics

The BA Honors in Mathematics is a flexible program. Students can design the degree for a general beral education or for a specific career. The Department also offers three different BSc programs with honors in Mathematics (see §193.14.1).

Entrance to Honors in Mathematics will ordinarily take place at the end of the first year of university study. Entrance may be granted at an earlier or later date depending on circumstances. Recommended courses include MATH 117/118 and, if admitted to first year, MATH 127/128.

Honors in Mathematics requires MATH 117; 118; 127; 128; 217; 227; 318; 336; 373 or 421; 411; 417; 418; 426; 427; 447; 448; 486; 496. Note that MATH 426, 427, 447, 448 and 486 are normally offered only every second year. The remaining options must include at least 42 units of course weight from the Faculty of Arts.

A minimum GPA of 6.5 with an average of 7.0 or better in Mathematics courses is required for admission to the Mathematics program; graduation with First Class Honors requires a minimum GPA of 8.0 on all Mathematics courses in the last two years and a GPA of 7.5 or better on all courses in the two final years or last 60 units of course weight.

43.16.2 Concentration and Second Subject in Mathematics

(1) **Degree of BA:**

a. See §43.1.1.

b. In order to ensure access to as wide a variety as possible of 400-level courses, students should include MATH 113/114, 115, 120, 214 and 215 in the first two years of their program. MATH 121 and 223 are recommended.

c. Mathematics as a second subject: see §43.1.1.

d. Students concentrating in Economics who wish to take Mathematics as a second subject should refer to §43.9.3(1)(d).

(2) **The Degree of BA (General):** See §42.4(9).

The usual first year calculus course for a general program student in Arts is MATH 113/115 or 114/115. However, general program students may take MATH 117/118 provided they have the permission of the Department. If students pass MATH 117/118, they may apply to the Department for admission to second year Honors. Students with a good record in MATH 113/115 or 114/115 may also apply to the Department for admission on the understanding that their record will be considered equivalent to MATH 117/118. If such students are granted admission they must satisfy all the requirements of the Honors program they have chosen.

A list of Mathematics courses, together with their descriptions, appears in §194 of the Faculty of Science Calendar.

Students should consult the Department as early as possible regarding the choice of their courses.

(3) **The Degree of BA (Special):** See §42.4(9).

43.17 Music

43.17.1 Honors in Music

The BA degree with Honors in Music is available to undergraduates interested in history and/or theory.

Entrance to Honors in Music will ordinarily take place at the end of the first year of university study. Entrance may be granted at an earlier or later date depending on circumstances. Recommended courses include MUSIC 150/151 and, if admitted to the first year, MUSIC 124; an audition is required for admission to MUSIC 124 (auditions take place in June and mid-August).

Honors in Music requires 72 units of course weight including Theory: MUSIC 150, 151, 250, 251, 450, 461; History: MUSIC 202, 203, 204, 205, 501, 502, 505; Applied Music: 124, 224, 424; a further 15 units of course weight in Music history or theory; six non-Music history units of course weight; language other than English requirement (including the first year) in German, French, Italian, or Latin: one year each of two languages or two years of one language at levels appropriate to the background of the student.

Admission to the program is dependent on a successful audition for MUSIC 124 and, if admitted to the first year, a high matriculation average; admission to subsequent years requires a minimum GPA of 6.5 with an average of 7.0 or better in Music courses; graduation with First Class Honors requires a minimum GPA of 8.0 on all Music courses in the last two years and a GPA of 7.5 or better on all courses in the two final years or last 60 units of course weight.

Note: For BMus (Honors) program, see §43.1.15.

43.17.2 Concentration and Second Subject in Music

(1) **The Degree of BA**

a. See §43.1.1.

b. Concentration in Music must include studies in applied music, music theory, and music history. At least six units of course weight in each of applied music (selected from MUSIC 124, 140, 141, 224, 240, 241,or 343), music theory (selected from MUSIC 150, 151, 237, 250, 251, or 259 and 260), and music history (selected from MUSIC 101, 165, 201, 202, 203, 204, 205, 213, or 215) is required. The program must include at least 12 units of course weight at the 400-level. MUSIC 150 and 151 should be taken as early as possible in the program. No junior-level courses may be counted toward the major subject of concentration. See §43.1.1(II)(4).

c. **Music as a second subject:** 18 units of course weight in Music including six at the 400-level. MUSIC 100 cannot be used to satisfy the second subject requirement.

(2) **The Degree of BA (General):** See §42.4(9).

(3) **The Degree of BA (Special):** See §42.4(9).

For the degree of BMus, see §43.1.14.

43.18 Native Studies (School of Native Studies)

Native Studies as a second subject in the BA (AR20) degree requires a minimum of six Native Studies (NS) units of course weight at the 300-level and six Native Studies (NS) units of course weight at the 400-level. At the 300-level, students are required to take NS 310 and 311. (Students with credit in HIST 368/369 need not take NS 310).

The Faculty of Arts has approved a number of NS courses which may be used to complete a second subject in the BA (AR20). When used in this way, they will be counted as Arts courses. Students should consult the School of Native Studies as to when these courses are being offered.

The Faculty of Arts has also agreed that NS 101 Introductory Cree and NS 151 Intermediate Cree may be used to fulfill the Language Other than English requirement of the BA (AR20) (see §43.1.1(II)(3)). When used in this way, the courses will be counted as free options.

43.19 Philosophy

43.19.1 Honors and Combined Honors in Philosophy

Students planning to apply for admission to the Honors program should consult §43.1.2 for general program requirements and arrange for counselling from the department's Honors adviser.

Honors in Philosophy requires a minimum of 54 units of course weight in Philosophy, including the Honors seminar (PHIL 496/497) and the Honors tutorial (PHIL 422/423, 552/553) in the fourth year. There is a Logic requirement, normally satisfied by taking PHIL 389, and a History of Philosophy requirement, normally satisfied by taking PHIL 335, 336, 345 and 347.

Note 1: A second subject of concentration consisting of six units of course weight at the 400-level is also required.

Note 2: A Combined Honors degree in Philosophy and another discipline such as Greek, Political Science, etc., requires a minimum of 36 units of course weight in another discipline (see §43.1.2).

Admission to Honors in Philosophy requires a 7.0 average or better in Philosophy courses and a minimum GPA of 6.5 overall; the distinction of First Class Honors upon graduation requires a minimum GPA of 8.0 on all philosophy courses in the two final years, and a 7.5 or better on all courses in the two final years or the last 60 units of course weight.

43.19.2 Concentration and Second Subject in Philosophy

(1) **The Degree of BA:**

a. See §43.1.1. for general Faculty requirements for a concentration, in addition to the Philosophy Department's specific requirements below (b).

b. Philosophy as a major subject of concentration requires one of PHIL 130 or 140; one of PHIL 121, 122, or 389; one of PHIL 335, 336, 345, 347; one of PHIL 333, 334, 339, 340, 350, 382, 383; one of PHIL 321, 322, 323, 324.

c. Philosophy as a second subject requires completion of 18 units of course weight in Philosophy, including six at the 400-level.

(2) **The Degree of BA (General)** See §42.4(9) and consult the Department.

(3) **The Degree of BA (Special):** See §42.4(9) and consult the Department.

43.20 Political Science

43.20.1 Honors in Political Science

Entrance to Honors in Political Science will ordinarily take place at the end of the first year of university study. First-year students with an interest in Honors are advised to enroll in the four-year BA program (see §43.1.1) and choose courses in consultation with the Department Honors adviser. These courses should include POL S 100, and six units of course weight at the junior level in a language other than English, which normally will be French. In special circumstances, an alternative language other than English (not French) may be substituted if it is particularly relevant to students' academic programs.

Honors in Political Science requires a minimum of 54, maximum of 60 units of course weight in Political Science; it is possible to reduce the minimum to 48 by counting six units of course weight from "an associated discipline". Required courses are: POL S 310, POL S 415, POL S 416, POL S 499, and six units of course

weight in Canadian Politics (normally met by POL S 320). Competence in statistics is required: this may be fulfilled by POL S 316, or by an equivalent course from another department. At least six or 12 units of course weight are required in each of two fields other than Canadian politics and political theory, selected from comparative government, international relations, political behavior and psychology, urban government and politics. In the first 48 units of course weight in Political Science there shall be a maximum of 12 in any single field. Honors seminar POL S 399 is recommended for third-year students and POL S 499 is required for fourth-year students.

Admission to Honors in Political Science requires a minimum GPA of 7.0 on the last 30 units of course weight, as well as a minimum grade point average of 7.0 in Political Science courses (at least six units of course weight). Graduation with First-Class Honors requires a minimum GPA of 8.0 on all Political Science courses taken in the last two years of the program, with a 7.5 average or better on all courses in the two final years or last 60 units of course weight.

43.20.2 Concentration and Second Subject in Political Science

(1) **The Degree of BA:**

a. See §43.1.1.

b. Concentration in Political Science requires a minimum of 30 and a maximum of 42 units of course weight in Political Science at the senior level with at least 12 at the 400-level. Normally these courses must include POL S 310 and POL S 320, plus six units of course weight in each of two fields other than Canadian politics and political theory, selected from the fields of comparative government, international relations, political behavior and psychology, urban government and politics. Note: the requirements described as "normal" may be varied only in very special circumstances and only with departmental approval. Students should note that most 400-level courses presuppose specific 300-level prerequisites. Students proposing to concentrate in political science should take POL S 100 in the first year and, in the second year, six units of course weight from: POL S 300, 310, 320, 323, 360, 390. The latter courses meet the Social Sciences Group B requirement. It is also recommended that students take French to satisfy the requirement for a language other than English.

c. Political Science as a Second Subject: Students are advised that most 400-level courses in Political Science presuppose specific 300-level "core" courses as prerequisites.

(2) **The Degree of BA (General):**

a. See §42.4(9).

b. The Department advises the following sequences:

For the 18, 24 and 30 units of course weight sequences: POL S 100 plus the equivalent of 12, 18 or 24 other senior Political Science units of course weight.

(3) **The Degree of BA (Special):**

a. See §42.4(9).

b. The department requires at least 36 but no more than 48 units of course weight in Political Science. Normally students must include POL S 310 and POL S 320 in their programs. They must also include six units of course weight from each of two of the following fields of study: comparative government, international relations, political behavior and psychology, urban government, and politics.

43.21 Psychology

43.21.1 Honors in Psychology

The Department offers courses leading to the degrees of BA and BSc with Honors in Psychology. Departmental requirements for both degrees are identical. However, students wishing to emphasize the humanities and social sciences in their program are advised to register for the BA; those who wish to emphasize the physical and biological sciences are advised to register for the BSc. With either degree, the program is especially appropriate for students considering postgraduate study, training, or research in any area of psychology. However, students considering postgraduate training in other fields (e.g., medical research) that require research skills also may find this program appropriate.

The Honors program is designed to provide students with experience that will help them determine whether they would like to continue on to postgraduate work. In the program, students learn specific skills and knowledge that will ease their transition from undergraduate to graduate study. Honors students are encouraged to become involved in ongoing departmental activities and to view the Department as an academic home during their undergraduate studies.

Entrance to Honors in Psychology can take place at the end of the first or second year of university study. Students planning to apply for admission to the Honors program should take PSYCO 104/105 in their first year and should consult general faculty requirements. Because many areas of psychology utilize biological and quantitative knowledge, prospective honors students are advised to take courses in these areas during their first and second years. ZOOL 120 or BIOL 197 and either CMPUT 114 or MATH 113 or 114 are strongly recommended. Questions regarding course selection may be discussed with a department Honors adviser.

Honors in Psychology requires a minimum of 48 and a maximum of 60 units of course weight in Psychology including the following: (a) PSYCO 104/105, (b) PSYCO 211 (prerequisite Mathematics 30) or, with consent of the department, an equivalent course (e.g., STAT 141 or 155), (c) the Honors seminars PSYCO 306/307 (taken in the third year of university study) and PSYCO 406/407 (taken the following year), and (d) at least six additional units of course weight from the Psychology listings in both the Arts and Science sections of the Calendar. Students should select additional psychology courses offered by both the Faculties of Arts and Science to ensure a well-rounded background in Psychology. They are also encouraged to take a lab course (e.g., PSYCO 208, 266 or 475). An important feature of the Honors program is the opportunity for the students to engage in independent study and research. During the third year, students will complete a year-long, non-credit research apprenticeship and, during the fourth year, will write an empirical Honors thesis (PSYCO 490), under the guidance of a Faculty member of the Department of Psychology. To help students learn to communicate about research, students present their thesis projects to other students and staff in the department at the annual Honors Conference held in the spring.

A minimum of 30 units of course weight will be taken in related subjects. These courses may be taken all in one field (e.g., mathematics, biology or sociology) or in several, depending on students' special interests and relevance of the courses to the subject matter of psychology. In choosing related subjects, students should consider both skills courses (e.g., expository writing, advanced statistics, mathematics and computer programming) and subject matter courses that will broaden their education and enhance their preparation for graduate training. To count as a course in a related subject, a course must be approved individually by the Psychology Honors adviser.

A minimum overall GPA of 7.0 and a 7.0 GPA or better on all Psychology courses is required for admission to the program. Second-year students completing their first year of university courses at another institution or second-year students who did not take PSYCO 104 or 105 in their first year are not eligible for entrance into the program until their third year at university. There is no admission after the beginning of the third year. Promotion from year to year requires a minimum GPA of 7.0; graduation with First-Class Honors requires a minimum GPA of 8.0 in all Psychology courses taken during the last 60 units of course weight and 7.5 or better on the last 60 units of course weight.

43.21.2 Concentration and Second Subject in Psychology

(1) **The Degree of BA:**

a. See §43.1.1.

b. The Department of Psychology offers courses leading to both BA and BSc degrees. Students wishing to emphasize the humanities and social sciences in their programs are advised to register for the BA and follow one of the sequences suggested in the Faculty of Arts section of this Calendar. Students wishing to emphasize the biological sciences are advised to register for the BSc. However, to ensure a well-rounded background in psychological inquiry, students in the General program are required to take Psychology courses from both the Faculties of Arts and Science. Students selecting Psychology as a major subject of concentration are required to take: (a) PSYCO 104/105, (b) PSYCO 211 (prerequisite Mathematics 30) or, with consent of the department, an equivalent course (e.g. STAT 141 or STAT 155), (c) a minimum of six units of course weight at the 200-level must be courses offered by Science, and a minimum of six units of course weight at the 200-level must be from courses offered by Arts. In addition, a minimum of six units of course weight at the 300- or 400-level must be from the courses offered by Science, and a minimum of six units of course weight at the 300- or 400-level must be from the courses offered by Arts. (STAT 378 may be counted as a Science Psychology course by students taking Psychology as a major subject of concentration). At least 12 units of course weight must be at the 400-level.

c. Students selecting Psychology as a second subject are required to take (a) PSYCO 104/105, (b) PSYCO 211 (prerequisite Mathematics 30) or, with consent of the department, an equivalent course (e.g. STAT 141 or STAT 155), (c) a minimum of three units of course weight at the 200-level must be courses offered by Science, and a minimum of three units of course weight at the 200-level must be from courses offered by Arts. In addition, a minimum of three units of course weight at the 300- or 400-level must be from the courses offered by Science, and a minimum of three units of course weight at the 300- or 400-level must be from the courses offered by Arts. At least six units of course weight must be at the 400-level. Note: Since PSYCO 211 is a prerequisite or corequisite for several senior courses it should be taken in the second year.

(2) **The Degree of BA (General):**

a. See §42.4(9).

The Department advises the following sequences:

18 units of course weight sequence: PSYCO 104 and 105; PSYCO 211; three senior units of course weight (with laboratory) offered by Science; six senior Psychology units of course weight offered by Arts.

24 or 30 units of course weight sequence: As above, plus either six or 12 senior Psychology units of course weight which may be chosen from the Calendar listings of either Faculty.

(3) **The Degree of BA (Special):**

a. See §42.4(9).

b. The Department advises the following sequences:

1) PSYCO 104 and 105.
2) PSYCO 211 (or, with the consent of the Department, STAT 155.)
3) at least one of PSYCO 208, 266, 281, or 353.
4) at least one of PSYCO 233 or 241.

43.22 Religious Studies

43.22.1 Honors in Religious Studies

Entrance to Honors in Religious Studies will ordinarily take place at the end of the first year of university study. Students planning to apply for admission to the Honors program should consult §43.1.2 for general program requirements and the department Honors adviser for first-year course selection which it is recommended should include ENGL 101 and six units of course weight in Religious Studies at the junior level.

Honors in Religious Studies requires a minimum of 60, maximum of 78 units of course weight in Religious Studies with at least 15 in each of the three parts into which the program is divided: western religions; eastern religions; thematic studies. (Note: SCAND 340 counts as a course in Western Religions.) The program must include RELIG 501 (Honors Essay) and at least 15 units of course weight at the 400-level or above. The topic for the Honors essay and its supervisor will be chosen in consultation with the Honors adviser during the third year and it will be written in the fourth year.

Students are required to demonstrate the ability to translate, at sight and with the help of reference work, from an approved language other than English. Students may fulfill this requirement by successfully completing 12 units of course weight of university-level study, or by taking an examination arranged by the Department. The requirements must normally be fulfilled by the end of the

dents' third year. It is strongly recommended that the guage be related to students' selected area of con-tration in Religious Studies, e.g. the language of ied texts. ARAB 302, CHINA 200 or 202, GREEK , HEB 302, JAPAN 200 or 202, or LATIN 300 will be matically approved; senior level courses in other guages, or their equivalents, will require prior ap-val.

A minimum GPA of 6.5 with an average of 7.0 or ter in Religious Studies courses is required for ad-ission to the program; promotion from year to year and duation with Honors requires a minimum GPA of 7.0; duation with First-Class Honors requires a minimum A of 8.0 on all Religious Studies courses beyond the ior level and a GPA of 7.5 or better on all courses in final year or last 30 units of course weight.

3.22.2 Concentration and Second Subject in Religious Studies

The Degree of BA: See §43.1.1.

The Degree of BA (General): See §42.4(9).

The Degree of BA (Special): See §42.4(9).

3.23 Romance Languages

3.23.1 Honors in Romance Languages

Entrance to Honors in Romance Languages will dinarily take place at the end of the first year of iversity study. Students planning to apply for admis-on to the Honors program should consult §43.1.2 for eneral program requirements and the department Honors dviser for first-year course selection which it is recom-ended should include ENGL 101 and six units of ourse weight in a language other than English selected om FREN 150 or 152, ITAL 100 or 150, SPAN 100, or, r those with the necessary preparation, a 300-level ourse in one of these languages.

Five programs are available:

(1) **Romance Languages:** 72 units of course weight in two or three Romance fields (French, Italian, Romance Linguistics, or Spanish), with a minimum of 36 in at least one field and a maximum of 48 in any field.

If French is the principal subject, courses selected must include FREN 258, 300, 520, six units of course weight in French Canadian Literature and/or Civilization, 12 units of course weight from among no more than two of FREN 360, 370, 380 and/or FRENCH 400, 430, 431, 440, 441, 450, 451, 461, 471, 481, 490, FR CA 421, 422, 423, 424, 428, 429, 471, or any 500-level French or French Canadian literature or translation course, three units of course weight from remaining courses listed for Honors in French. If French is the second or third subject, courses selected must include at least 18 units of course weight chosen from among courses listed for Honors in French.

If Italian is the principal subject, courses selected must include ITAL 201, 302, 403, and at least 36 units of course weight in Italian at the senior level, two of which must be at the 400-level or above.

If Spanish is the principal subject, SPAN 201, 302, 403 must be taken and minimum requirements for concentration must be met.

(2) **French:** Required courses are as follows: FREN 222, 223, 258, 300, 358, 415, 416, 426, 520, R LIN 370, six units of course weight in French Canadian Literature and/or Civilization, and 21 units of course weight from among no more than two of FREN 360, 370, 380, and/or FREN 400, 430, 431, 440, 441, 450, 451, 461, 471, 481, 490, FR CA 421, 422, 423, 424, 428, 429, 471, or any 500-level French or French Canadian literature or translation course.

Students wishing to enter an Honors program in French in their third year may do so only if they have received a grade of at least 8 in FREN 250 or 350; they will not be required to take FREN 258.

Students wishing to prepare for the MA program in French or French Canadian Literature are advised to select literature courses at the 400- and 500-levels as part of their Honors program, while those who wish to prepare for the MA in French literary translation are advised to select FREN 400, 515, and 516.

(3) **Romance Linguistics:** Any combination of 72 approved units of course weight in Romance Linguistics, Linguistics, and the Romance Languages, with a minimum of 36 units of course weight in Romance Linguistics and a minimum of 12 in Linguistics.

(4) **Spanish and Spanish American Studies:** Required courses are as follows: SPAN 201, 250, 252, 253, 302; nine units of course weight from SPAN 309, 310, 312, 313; six units of course weight from SPAN 315, 320, 350, 355; SPAN 403; SPAN 520; 12 additional units of course weight at the 400-level or above, of which at least six must be in literature; six units of course weight selected from courses in Romance Linguistics with Hispanic content, 12 approved units of course weight from another department.

(5) **Combined:** 36 units of course weight in a Romance field (French, Italian, Romance Linguistics, or Spanish) and a minimum of 36 units of course weight in an approved subject in another department. Requirements in the Romance field are as for Honors in Romance Languages.

A minimum GPA of 6.5 with an average of 7.0 in Romance Languages courses is required for admission to the program; graduation with First-Class Honors requires a GPA of 8.0 on all Romance Languages courses in the last two years and a GPA of 7.5 on all courses in the final year or last 30 units of course weight.

43.23.2 Concentration and Second Subject in Romance Languages

(1) **The Degree of BA:**

a. See §43.1.1.

b. Students wishing to concentrate in French are required to take a minimum of 30 and a maximum of 42 units of course weight at the senior level, 12 of which must be at the 400-level. Courses selected must include six units of course weight in French language (FREN 250, 350, 258 or 358), six units of course weight in French literature (either FREN 300 or any two of 360, 370, 380), FREN 222 or 223, FREN 415 or 416, and three units of course weight in French Canadian Literature or Civilization.

c. Students wishing to concentrate in French Canadian Studies are required to take a minimum of 30 and a maximum of 42 units of course weight at the senior level, 12 of which must be at the 400-level. Courses selected must include FREN 250 or 350, FR CA 222 or 223, FR CA 300 or 330, FREN 415 or 416, and three units of course weight in French Literature or Civilization.

d. Students wishing to concentrate in Italian are required to take a minimum of 30 and a maximum of 42 units of course weight at the senior level or above, 12 of which must be at the 400-level.

e. Students wishing to concentrate in Romance Linguistics are required to take a minimum of 30 and a maximum of 42 units of course weight at the senior level, 12 of which must be at the 400-level.

f. Students wishing to concentrate in Spanish are required to take a minimum of 30 and a maximum of 42 units of course weight at the senior level, 12 of which must be at the 400-level. The following program is recommended: nine units of course weight from SPAN 250, 252, 253; nine units of course weight from SPAN 309, 310, 312, 313; six units of course weight from SPAN 315, 320, 350, 355; 12 units of course weight at the 400-level or above, six in language and the other six in literature.

g. Students shall be permitted to include two or more languages (this does not include Romance Linguistics) studied in the Department of Romance Languages in their subject of concentration (see §43.1.1(II)(7)(b)).

h. French, French Canadian, Italian, Romance Linguistics, and Spanish may each be taken as a second subject. In all cases, students are required to take at least six units of course weight at the 400-level and are advised to anticipate this requirement by ensuring that they acquire the appropriate prerequisites.

(2) **The Degree of BA (General):**

a. See §42.4(9).

b. Students may concentrate in French and/or French-Canadian, or in Italian, or in Spanish, or in Romance Linguistics. A combination of courses within any one of these areas will be accepted as a subject of concentration.

c. Students in the BA (General) with Romance Linguistics as a subject of concentration may include LING 203 with prior approval of the Faculty.

(3) **The Degree of BA (Special):**

a. See §42.4(9).

b. In the principal subject a minimum of 36 units of course weight is required by the Department.

c. Students in the BA (Special) with Romance Linguistics as a subject of concentration may include LING 203 with the prior approval of the Faculty.

Note: French-Canadian courses can be taken in meeting requirements for the BA degree in Canadian Studies (see §43.1.7).

43.24 Slavic and East European Studies

43.24.1 Honors in Slavic Languages

Entrance to Honors in Slavic and East European Studies will ordinarily take place at the end of the first year of university study. Students planning to apply for admission to the Honors program should consult §43.1.2 for general program requirements and the department Honors adviser for first-year course selection which should include six units of course weight in the proposed language of concentration.

The fourth year of programs requires an original Honors thesis on a topic related to senior course material; the thesis will be written under the supervision of an adviser chosen by the department in consultation with the student and may be done in conjunction with course work.

A minimum GPA of 6.5 with an average of 7.0 or better in Slavic and East European Studies courses is required for admission to the program; graduation with First-Class Honors requires a minimum GPA of 8.0 on all Slavic and East European Studies courses beyond the junior level and a GPA of 7.5 or better on all courses in the first year or last 30 units of course weight.

Five programs are available:

(1) **Russian/Ukrainian**

a. **Russian:** A minimum of 54 units of course weight in the major subject of concentration; 24 units of course weight in an approved second subject.

The program with Russian as the major subject of concentration must include: RUSS 100 or 101; 201/202 or 203, 205, 215/216, 401/402, 405 or 406, 453/454, 501/502.

Students are also required to take nine units of course weight in Russian Literature at the 400-level. RUSS 479 (Honors Thesis) is required of all students. Honors students are encouraged to take RUSS 401/402 and six units of course weight at the 400-level in Russian Literature concurrently.

b. **Ukrainian:** A minimum of 54 units of course weight in the major subject of concentration; 24 units of course weight in an approved second subject.

The program with Ukrainian as the major subject of concentration must include: UKR 150 (or 100 and 201/202), 205, 215/216, 401/402, 405, 453/454, 503/511. Students are also required to take nine units of course weight chosen from the following: UKR 411, 412, 433, 471, or three units of course weight in Ukrainian Folklore at the 400-level. UKR 479 (Honors Thesis) is required of all students. Honors students are encouraged to take UKR 401/402 and six units of course weight at the 400-level in Ukrainian Literature concurrently.

(2) **Slavic Languages and Literatures:** Russian or Ukrainian as the major subject of concentration, and Polish, Slavics or Ukrainian/Russian (depending on major subject) as the second subject.

The program requires 48 units of course weight in the major subject, and a minimum of 24 units of course weight in the second subject. The program must include SLAV 403, and SLAV 420 and 515.

(3) **Combined Honors Program:** A Combined Honors degree in either Russian or Ukrainian and another discipline, for example, French, German, Comparative Literature, normally requires a minimum of 36 units of course weight in each discipline (see §43.1.2).

(4) **East European and Soviet Studies:** A minimum of 57 units of course weight in the major subject of concentration and 24 in an approved second subject. The major subject must include: INT D 346, 347, 444 or 445, 447, 479, 546; ECON 393, 593; POL S 341; GEOG 502; six units of course weight chosen from: HIST 314, 315, 320, 417, or 419; 12 units of course weight in a Slavic language; and three units of course weight in Slavic literature-in-translation. Recommended options, to be chosen in consultation with the Honors adviser, are POL S 471, POL S 488, POL S 489, additional Slavic language courses, C LIT 465, or any other courses in East European topics pertinent to the program, if these are not already included in the approved second subject.

(5) **Ukrainian Folklore:** A minimum of 54 units of course weight in the major subject of concentration and 24 in an approved second subject. The major subject of concentration must include: UKR 150 (or 100 and 201/202), 205, 215/216, 326, 401/402, 411, UKR 422/423, 425/426, 451/453, 471 and 479. Recommended options are SLAV 403, 420/421, ANTHR 307 (a prerequisite or corequisite for UKR 425/426) and C LIT 341. The suggested second subject is History, and should include HIST 315, 316/317, 261 and 367.

A minimum GPA of 6.5 with an average of 7.0 or better in Slavic and East European Studies courses is required for admission to the program; graduation with First-Class Honors requires a minimum GPA of 8.0 on all Slavic and East European Studies courses beyond the junior level and a GPA of 7.5 or better on all courses in the final year or last 30 units of course weight.

43.24.2 The Degree of BA in Slavic and East European Studies

To satisfy the requirements for a major in Slavic and East European Studies students must take a minimum of 36 and a maximum of 42 units of course weight at the senior level; of these at least 12 must be at the 400-level. Students are advised that most 200-, 300- and 400-level courses have specific prerequisites which must be met prior to the start of the major. All students intending to major in Slavic and East European Studies should consult with a departmental adviser as soon as possible. Students majoring in one of the following fields are encouraged to take other area-related courses in Comparative Literature, Economics, History, Linguistics, Political Science, and Slavic and East European Studies. Students majoring in East European and Soviet Studies must choose their second subject carefully to make sure that it is outside the major subject of concentration. They are allowed to choose the language they passed at the second-year level in 1(a), but they are not allowed to choose the subject or subjects taken to satisfy the "area-related" requirement in 1(f).

The Department of Slavic and East European Studies offers the following Majors:

(1) East European and Soviet Studies

(2) Slavic Language and Linguistics
   a. with concentration in Russian
   b. with concentration in Ukrainian
   c. combined majors (e.g. Russian and Ukrainian, Ukrainian and Polish, etc) may be arranged in special cases

(3) Russian Language and Literature

(4) Ukrainian Folklore

(5) Ukrainian Language and Literature

In special cases combined majors involving Slavic Languages and Literatures may be arranged.

(1) **A major in East European and Soviet Studies** will normally consist of the following courses:
   a. RUSS 201/202 or UKR 201/202 or POLSH 201/202
   b. INT D 346
   c. INT D 347
   d. Three of INT D 444, 445, 447, 499
   e. INT D 546
   f. Six area-related units of course weight outside the Department (POL S 341, 342, ECON 391, 393, HIST 316, 317, 318, 320).

   For additional courses in the major it is strongly suggested that students choose from a 400-level language course or UKR 320, RUSS 321/323.

   Students majoring in another subject may wish to take East European and Soviet Studies as a second subject. The minimum requirement is six units of course weight in East European and Soviet Studies at the 400-level.

(2) **Concentration in Russian or Ukrainian**
   a. A Major in Slavic Language and Linguistics with a concentration in Russian will normally consist of the following courses:
      1) RUSS 201/202
      2) RUSS 401/402
      3) SLAV 403/420
      4) Two of SLAV 421, RUSS 451, 453, 454, 455
      5) Two of RUSS 215, 216, 411, 412

      For additional courses in the major it is strongly suggested that students take RUSS 501/502 and a second Slavic Language.

      Students majoring in another subject may wish to take Slavic Linguistics as a second subject. The minimum requirement is six units of course weight in Slavic Linguistics at the 400-level.
   b. A major in Slavic Language and Linguistics with a concentration in Ukrainian will normally consist of the following courses:
      1) UKR 201/202
      2) UKR 401/402
      3) SLAV 403/420
      4) Two of SLAV 421, UKR 451, 453, 454, 455
      5) Two of UKR 411, 412, 481, 482

      For additional courses in the major it is strongly suggested that students take UKR 503/504 and a second Slavic Language.

      Students majoring in another subject may wish to take Slavic Linguistics as a second subject. The minimum requirement is six units of course weight in Slavic Linguistics at the 400-level.
   c. Combined majors in Slavic Language(s) and Linguistics (e.g. Russian and Ukrainian, Ukrainian and Polish, etc.) may be arranged in special cases.

(3) A major in Russian Language and Literature will normally consist of the following courses:
   a. RUSS 201/202 or 301
   b. RUSS 215/216
   c. Two of RUSS 320, 321, 323
   d. Two of RUSS 453, 454, 555
   e. RUSS 401/402
   f. Two of RUSS 411, 412, 462, 481, 482

   For additional courses in the major it is strongly suggested that students take RUSS 501/502.

   Students majoring in another subject may wish to take Russian Language and Literature as a second subject. The minimum requirement is six units of course weight in Russian Literature at the 400-level.

(4) A major in Ukrainian Folklore will normally consist of the following courses:
   a. UKR 201/202
   b. UKR 401/402
   c. UKR 326
   d. UKR 422/423
   e. UKR 425/426
   f. Two of UKR 411, 412, 451

   For additional courses in the major it is strongly suggested that students choose from UKR 205, 405, 433, 453, 454.

   Students majoring in another subject may wish to take Ukrainian Folklore as a second subject. The minimum requirement is six units of course weight in Ukrainian Folklore at the 400-level.

(5) A major in Ukrainian Language and Literature will normally consist of the following courses:
   a. UKR 201/202
   b. UKR 215/216
   c. UKR 320/433
   d. UKR 401/402
   e. Two of UKR 453, 454, 455
   f. Two of UKR 411, 412, 465, 466, 467, 481

   For additional courses in the **major** it is strongly suggested that students take UKR 205, 211, 326, 405, 503, 504.

   Students majoring in another subject may to take Ukrainian Language and Literature second subject. The minimum requirement is units of course weight in Ukrainian Literature a 400-level.

43.24.3 Concentration in Polish

(1) **The Degree of BA (General):**
   a. See §42.4(9) and §43.1.3.
   b. The Department advises the following co sequences: POLSH 100, 201, 202 and any senior units of course weight.

43.24.4 Concentration in Russian

(1) **The Degree of BA (General):**
   a. See §42.4(9) and §43.1.3.
   b. The Department advises the following co sequences:
      RUSS 100, 201 and 202, and any senior units of course weight.
      Note: 400-level Russian literature cour have RUSS 215/216 as prerequisites.

(2) **The Degree of BA (Special):**
   a. See §42.4(9) and §43.1.4.
   b. The Department advises the following cou sequences: RUSS 100, 201 and 202, 401 a 402, 501 and 502 and any six senior units course weight.
   c. A maximum of six units of course weight literature in translation courses may be credi towards a first or second subject of concent tion in Russian. Note: 400-level Russian lite ture courses have RUSS 215/216 as prerequisi

43.24.5 Concentration in Ukrainian

(1) **The Degree of BA (General):**
   a. See §42.4(9) and §43.1.3.
   b. The Department advises the following cour sequences:
      UKR 100, 201 and 202, and any six seni units of course weight, or UKR 150, 401 a 402, and any six units of course weight at t 400-level.
      Note: 400-level Ukrainian literature cours have UKR 215/216 as prerequisites.

(2) **The Degree of BA (Special):**
   a. See §42.4(9) and §43.1.4.
   b. The Department advises the following cours sequences: UKR 100, 201 and 202, 401 an 402, and any 12 units of course weight at th 400 level; or UKR 150, 401 and 402, and an 18 units of course weight at the 400-level.
   c. A maximum of three units of course weight literature in translation courses may be credite towards a first or second subject of concentra tion in Ukrainian. Note: 400-level Ukrainia literature courses have UKR 215/216 as pre requisites.

43.24.6 Dalhousie University - University of Alberta Russian Studies Program [DU-UARSP]

A one-year intensive Russian language program fo advanced-level students with Canadian citizenship offere a preparatory four months of study (from the beginning o September to the end of December) at Dalhousie University or the University of Alberta, followed by four months o study (from the beginning of February to the end of May) at the Pushkin Institute of Moscow, the Moscow Pedagogical Institute or Leningrad State University.

Students completing their preparatory studies at the versity of Alberta will be considered as enrolled at University of Alberta during their courses in the SR. Prospective applicants should consult an undergduate adviser in Slavic and East European Studies.

.25 Sociology

.25.1 Honors in Sociology

Admission to Honors in Sociology normally occurs r completion of at least 30 units of course weight of versity study including SOC 100 and 101. A minimum A of 7.0 overall in all Sociology courses is required.

General program requirements are listed in §43.1.2. culty compulsory core requirements should be met as ows: junior English course (ENGL 101 recommended); anguage other than English (French recommended); manities (three units of course weight); Fine Arts ree units of course weight), Natural Sciences and/or rmal Studies (six units of course weight) and Social iences (SOC 100 and 101). Faculty compulsory Canadian ordinate Requirements (six units of course weight) ust also be met.

Honors in Sociology requires successful completion a minimum of 42 senior units of course weight for the ncentration as follows: SOC 210, 241, 261, 308, 315, 2, 333, 407, 408, three units of course weight at any nior level, and 12 units of course weight at the 400-vel. A maximum of 54 senior units of course weight is ssible, the additional 12 being made up of any six nior units of course weight and six units of course ight at the 400-level.

Compulsory requirements for a second subject are st by a study of related subjects to include 30 units of urse weight in an area or areas related to the student's erest in Sociology.

Courses taken outside the Faculties of Arts and cience may be approved as part of the second subject ovided their number, in the total program, does not ceed 12 units of course weight. The remainder of an nors student's program is comprised of optional oursework which may include coursework outside the aculties of Arts and Science, provided their number, in e total program, does not exceed 12 units of course eight.

Honors students considering advancement to graduate udies should consider taking senior courses in popula-on and additional coursework in theory and methods eyond that required of all Honors students.

Promotion from year to year and graduation from e Honors program requires successful completion of ll coursework with a minimum overall GPA of 6.5 and a inimum overall average of 7.0 in Sociology coursework ut no less than 6 in any Sociology course). Graduation ith First-Class Honors requires a minimum GPA of 8.0 n all senior Sociology courses and a minimum GPA of .5 on the final 30 units of course weight.

Honors students are required to consult with the lonors adviser in Sociology to review proposed coursework rior to registration for each academic year and in dvance of any changes to approved registration.

43.25.2 Concentration and Second Subject in Sociology

(1) **The Degree of BA:**

a. See §43.1.1.

b. Concentration in Sociology requires SOC 100, 101, 210, 241, 261, 315, 332, 333, and 12 units of course weight in Sociology at the 400-level. A maximum of 12 additional senior-level units of course weight in Sociology is optional. Theory and statistics/methodology course work should be completed as soon as possible. SOC 102 is not available for credit to Sociology majors. Students must consult the Undergraduate Adviser in each academic year, preferably prior to registration.

c. Students selecting Sociology as a second subject are required to complete 18 units of course weight as follows: SOC 100 or 300; three units of course weight from SOC 210, 224, 225, 231, 241, 251, 260, 261 or 271; six units of course weight unspecified; six units of course weight at the 400-level. Note: SOC 300 and 402 are not acceptable 400-level courses when Sociology is taken as a second subject.

(2) **The Degree of BA (General):**

a. See §42.4(9).

b. Students presently enrolled in, and thus now completing this program, are advised that the Department recommends the following sequences:

18 units of course weight sequence: SOC 100 and 101 or 202, and 12 senior Sociology units of course weight;

24 units of course weight sequence: SOC 100 and 101 or 202, and 18 senior Sociology units of course weight (including three at the 400-level);

30 units of course weight sequence: SOC 100 and 101 or 202, and 24 senior Sociology units of course weight (including three at the 400-level course).

Students interested in proceeding to graduate work in Sociology should take SOC 210 and 315 (or equivalents), SOC 332 and 333, and SOC 241 and 261. These students are urged to consult with the Department early in their university career.

(3) **The Degree of BA (Special):**

a. See §42.4(9).

b. Students presently enrolled in, and thus now completing this program, are advised that the Department requires a minimum of 30 units of course weight including SOC 100 and 101 or 202, statistics and methods courses (SOC 311, or 210 and 315), theory courses (SOC 332 and 333), social psychology (SOC 241), social organization (SOC 261), and a sociology option at the 400-level.

43.26 Statistics

43.26.1 Statistics as a Second Subject

(1) Degree of BA

a. See §43.1.1

b. Statistics cannot be taken as a major subject of concentration in the BA (AR20) degree.

c. Statistics may be taken as a second subject in the BA (AR20). The minimum requirement is six units of course weight at the 400-level (see §194.31 of the Science Faculty Calendar).

Students concentrating in Economics who wish to take Statistics as a second subject should refer to §43.9.3(1)(e).

43.27 Women's Studies

43.27.1 Concentration and Second Subject in Women's Studies

(1) **The Degree of BA:**

a. See 43.1.1.

b. Concentration in Women's Studies requires a minimum of 30 units of course weight and a maximum of 42 units of course weight at the senior level in W ST and cross-listed Women's Studies courses (see §43.27.1(d)). Required are W ST 200, W ST 402 and six further units of course weight in cross-listed Women's Studies courses at the 400-level. Note: Students wishing to concentrate in Women's Studies are counselled to take W ST 200 (six units of course weight) as their Arts option in second year. W ST 200 is a prerequisite for all 300- and 400-level W ST courses, but it is not a prerequisite for cross-listed Women's Studies courses.

c. Women's Studies as a second subject requires a minimum of 18 units of course weight in either the W ST or cross-listed Women's Studies courses at the senior level (see §43.27.1(d)), six of which must be W ST 200. The required 400-level units of course weight must be chosen from either the remaining W ST or cross-listed Women's Studies courses.

d. **Cross-Listed Courses in Women's Studies:**

1) 100-level
ANTHR 110 Sex, Society and the Individual

2) 200- and 300-level
CHRTP 314 Topics in Women and Religion
CHRTP 318 Feminist Theology
CLASS 361 Women in Classical Antiquity
CLASS 497 Topics on Women in Classical Antiquity
C LIT 366 Women in World Literature
ENGL 390 Women's Literary Tradition
FREN 246 Readings from French Women Writers
HIST 206 Introduction to the History of Women
HIST 371 History of Women in Canadian Society
F ST 314 Film and the Representation of Women
INT D 347 Women and Socialism: USSR and Eastern Europe
PHIL 274 Feminist Issues in Political and Social Philosophy
POL S 350 Women and Politics: A Comparative Perspective
RELIG 277 Women and World Religions
SOC 301 Sociology of Gender

3) 400-level
ANTHR 410 Sex and Status in Comparative Perspective
FREN 490 Women Writers in France
FR CA 428 Women's Writing in Quebec
HIST 402 Women in Modern European History
HIST 470 Topics in Canadian Social History (Women and the Family)
JAPAN 417 Women's Literature in Japan
ORG T 432 Sex Roles in Organizations
SOC 491 Gender Stratification and Differentiation

4) The following courses are open-number courses allowing for variable content. In years when their content is relevant to Women's Studies, they can be used for credit toward a major or second subject in Women's Studies. The Women's Studies Coordinator may recommend in writing for each student that these courses may be used for credit toward a concentration in Women's Studies in a given year:
CANST 401 Seminar in Canadian Studies (Credited when the topic is Canadian Feminism: Contexts and Critiques)
ENGL 490 Special Studies in the Literature of Women (Credited when the topic is literature by women)
Other courses with variable content may, upon the decision of the Women's Studies Committee, be used for credit when they have Women's Studies subject matter. Please consult the Women's Studies Coordinator.

Note: These courses cannot be used by students concentrating in Women's Studies to fulfill the requirement for the second subject of the BA (AR20) degree.

44 Details of Courses

44.1 General Information

Courses are listed alphabetically by discipline designation, e.g., Art, English, Interdisciplinary Studies, etc.

Each course is designated by its computer abbreviation and a number. Students should use this abbreviation and number when filling in their registration forms.

Courses numbered 100 to 199 are junior courses, normally taken by first-year undergraduates. Those numbered 200 to 499 are senior courses, normally taken after the first year. Courses numbered 500 and up are normally restricted to graduate students and fourth year Honors students and others upon recommendation of the department.

Following the title of the course is the symbol "★" standing for "units of course weight", and a number indicating the weight of the course as used in computing grade-point averages. Some courses are offered for credit only, and carry no weight.

In parentheses, after the units of course weight, will be found the term in which the course is offered and the weekly lecture, seminar and laboratory hours. The latter are arranged according to the following three-position format:

First position:
lecture hours
Second position:
s - seminar hours
d - demonstration hours
c - clinic hours
L - lecture-laboratory hours
Third position:
laboratory hours

Examples: (first term, 3-0-3) means 3 hours lecture,

no seminar, three hours lab per week.

(second term, 0-1s-2) means no lectures, 1 seminar hour, and two hours of lab per week.

(either term, 3-0-0) means three lecture hours per week, no seminar, and no lab.

Departments are authorized to cancel the registration of those students registered in a course offered by the department who do not meet the prerequisite and/or corequisite requirements as stated in the course description in this Calendar.

Note A: The hours of instruction for a six units of course weight course are the same in both terms unless otherwise indicated.

Note B: "either term' means that the course may be offered either in the first term or in the second term or in both terms, at the discretion of the department concerned.

Note C: Effective 1990-91 the Faculty of Arts renumbered many of its undergraduate courses. Tables listing the old and new numbers can be found under individual Department entries in §44.

Some departments offer reading courses designed to fit the interests of advanced students not covered in the departments' other courses. Interested students should seek departmental assistance.

The appearance of a course description in the following list does not constitute any guarantee that the course will actually be offered in the forthcoming session. Information as to which courses will be offered, the names of the instructors, and all further details must be sought from the department concerned.

Physical Requirements for University

The University has a commitment to the education of all academically qualified students and special services are frequently provided on campus to assist disabled students.

Nevertheless, some courses make certain unavoidable demands on students, with respect to the possession of a certain level of physical skill or ability, if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the department concerned and the Disabled Student Services Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for all off-campus courses, instructors may be obliged to refuse registration in such courses.

Note: §44.2 Reserved.

44.3 Anthropology

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
ANTHR 201	ANTHR 101	ANTHR 250	ANTHR 150
ANTHR 210	ANTHR 110	ANTHR 282	ANTHR 182

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
ANTHR 301	ANTHR 201	ANTHR 370	ANTHR 270
ANTHR 313	ANTHR 213	ANTHR 371	ANTHR 271
ANTHR 319	ANTHR 219	ANTHR 374	ANTHR 274
ANTHR 325	ANTHR 225	ANTHR 377	ANTHR 277
ANTHR 327	ANTHR 227	ANTHR 378	ANTHR 278
ANTHR 330	ANTHR 230	ANTHR 379	ANTHR 279
ANTHR 345	ANTHR 245	ANTHR 380	ANTHR 280
ANTHR 346	ANTHR 246	ANTHR 381	ANTHR 281
ANTHR 350	ANTHR 250	ANTHR 382	ANTHR 282
ANTHR 355	ANTHR 255	ANTHR 383	ANTHR 283
ANTHR 356	ANTHR 256	ANTHR 384	ANTHR 284
ANTHR 361	ANTHR 261	ANTHR 385	ANTHR 285
ANTHR 362	ANTHR 262	ANTHR 392	ANTHR 292

44.3.1 Junior Courses

ANTHR 101 Introductory Anthropology
★3 (either term, 3-0-0). A general introduction to Anthropology through the study of central concepts and key issues. These include human evolution, the appearance of culture, social organization, cultural theory, symbolic systems, culture change. Note: Not open to students with credit in ANTHR 201 or 202.

ANTHR 110 Gender, Age and Culture
★3 (either term, 3-0-0). An anthropological review and comparison of cultures in terms of social positions based on differences in sex and age.

ANTHR 150 Race and Racism in the Modern World
★3 (either term, 3-0-0). The challenge of racism in modern societies and the response of anthropology, including the history of the 'race' concept in explaining human variation and the uses of racialist notions in discussions of individual and social differences.

ANTHR 182 Canadian Issues in Ethnographic Perspective
★3 (either term, 3-0-0). Socio-economic change, community organization and inter-group relations in the Canadian context.

44.3.2 Senior Courses

Note: Students with credit in ANTHR 202 have the equivalent of ANTHR 101 or 201.

ANTHR 201 Topics and Issues in Anthropology
★3 (either term, 3-0-0). An introduction to Anthropology through the study of selected topics such as human evolution, cultural adaptation, social structure, the individual and society, symbol and meaning, exchange and production, culture change. Note: Not open to first-year students or those with credit in ANTHR 101 or 202.

ANTHR 213 Domestic Groups
★3 (either term, 3-0-0). The study of domestic groups in evolutionary and ethnographic perspective.

ANTHR 219 World Prehistory
★3 (either term, 3-0-0). A survey of the archaeological evidence for human cultural evolution.

ANTHR 225 Anthropology and World Problems
★6 (3-0-0). An anthropological approach to the culture of capitalism, the social structure of colonial and neocolonial relations, and the emergence of new societies.

ANTHR 227 Indigenous and Cultural Minorities in the Modern World
★3 (either term, 3-0-0). The survival of indigenous and minority cultures in various societies. Anthropological perspectives on the relationships among race, class, culture, and politics, and on genocide, ethnocide, and the future of native peoples in the modern state.

ANTHR 230 Technology in Culture
★3 (either term, 3-0-0). An anthropological introduction to the evolution of tools and techniques; the adaptation of society to environment through technology; the interrelationship of technology, ideology, and social organization.

ANTHR 245 Prehistory of Western and Central Europe
★3 (either term, 3-0-0). A survey of the prehistory of Europe (excluding the areas of classical civilizations) from the Mesolithic through the Iron Age: ca. 10,000 to 400 B.C.

ANTHR 246 Peoples and Cultures of the Circumpolar Region
★3 (either term, 3-0-0). Comparative study of indigenous Arctic and sub-Arctic societies. Archaeological and ethnological considerations of northern societies of the Old and New Worlds.

ANTHR 250 Indians of North America
★6 (3-0-0). A survey of North American Indian cultures and civilizations. Special attention given to social organization, economic systems, prehistoric and historic social change. Some emphasis on Indians of Canada in historic and present-day perspectives.

ANTHR 255 Contemporary Canadian Native Peoples
★3 (either term, 3-0-0). Anthropological perspective on some current situations of native peoples in Canada.

ANTHR 256 Alberta Archaeology
★3 (either term, 3-0-0). An introduction to Alberta's past as reconstructed by archaeology.

ANTHR 261 Peoples and Cultures of Middle America
★3 (either term, 3-0-0). A review of the cultural history of the native peoples of Mexico and Guatemala. Analysis of contemporary Indian communities.

ANTHR 262 Peoples and Cultures of South America
★3 (either term, 3-0-0). A review of the cultural history of the native peoples of South America. Analysis of contemporary Indian communities.

ANTHR 270 Peoples and Cultures of Oceania
★3 (either term, 3-0-0). Historical, economic, and environmental factors which have helped shape major cultures and subcultures of the central and southern Pacific region (Polynesia, Micronesia, Melanesia, and Australia).

ANTHR 271 Peoples and Cultures of Southeast Asia
★3 (either term, 3-0-0). Cultures and societies in Southeast Asia: Burma, Thailand, Malaysia, Cambodia, Laos, Vietnam, Indonesia, and the Philippines; origins and developments, modern forms, trends of change.

ANTHR 274 Peoples and Cultures of South Asia
★3 (either term, 3-0-0). Historical background, social structure, economy, religion, art, tradition and change in India, Pakistan, Bangladesh and Sri Lanka.

ANTHR 277 Afro-American Society and Culture
★3 (either term, 3-0-0). Anthropological perspectives on the key problems of Afro-American life; slavery, racism, race and class, oppression, and colonialism. Descriptive materials from Canada, the United States, the Caribbean, and Latin America.

ANTHR 278 Culture and Society of China
★3 (either term, 3-0-0). The development of Chin culture and society; social structure, religion, techr ogy, economy, and polity in anthropological perspecti

ANTHR 279 Culture and Society of Korea
★3 (either term, 3-0-0). The development of Kore culture and society; social structure, religion, techr ogy, economy, and polity in anthropological perspecti

ANTHR 280 Culture and Society of Japan
★3 (either term, 3-0-0). Historical background, eth and personality, social structure, religion, art, and mc ernization.

ANTHR 281 Peoples and Cultures of the Middle Eas
★3 (either term, 3-0-0). The various linguistic and re gious communities of North Africa and Southwest As with special emphasis on the prevailing Islamic traditic

ANTHR 282 Peoples and Cultures of the Middle East II
★3 (either term, 3-0-0). An analysis of peasant, pastor and urban life in North Africa and Southwest Asia.

ANTHR 283 Peoples and Cultures of Western Afric
★3 (either term, 3-0-0). The cultures of sub-Sahara West Africa and the Zaire basin.

ANTHR 284 Peoples and Cultures of Eastern and Southern Africa
★3 (either term, 3-0-0). The indigenous cultures of th eastern portion of Africa from Ethiopia to South Africa.

ANTHR 285 African Culture and Art
★3 (either term, 3-0-0). Analysis of the cultural an artistic heritage of Africa from Paleolithic times to th present, with emphasis on ethnographic Western an Central Africa.

ANTHR 292 Primate Behavior
★3 (either term, 3-0-0). Emphasis on field studies c non-human primates. Topics to include: social organiza tion, behavior and ecology, territorial behavior commun cation, reproductive behavior, and other relevant topics

ANTHR 306 Introduction to Archaeology
★3 (either term, 2-0-1). Introduction to the nature purposes, theory and methods of anthropological ar chaeology. Emphasis is placed upon the principles o reconstruction of past societies from archaeologica evidence and the explanation of cultural evolution. Pre requisite: ANTHR 101 or 201.

ANTHR 307 Introduction to Social and Cultural Anthropology
★3 (either term, 3-0-0). The comparative study of human society and culture, particularly non-Western communities, with special attention to the family, social structure, economics and political institutions, and religion; processes of change. Prerequisite: ANTHR 101 or 201.

ANTHR 308 Introduction to Linguistic Anthropology
★3 (either term, 3-0-0). The anthropological study of language and communication. A brief survey of field and analytical methods and the theory of linguistic anthropology. Prerequisite: ANTHR 101 or 201.

ANTHR 309 Introduction to Physical Anthropology
★3 (either term, 3-0-0). Survey of theory and basic data in human evolution and human variation. Topics include primatology, osteology, hominoid paleontology, variation in modern populations. Prerequisite: ANTHR 101 or 201.

ANTHR 320 Anthropology of Religion
★3 (either term, 3-0-0). A survey of anthropological approaches to religions and related phenomena, including magic, taboo, shamanism and witchcraft. Emphasis is on the connection between religious ideas and practices and other aspects of social life in a variety of cultures. Prerequisite: ANTHR 101 or 201 or consent of Department. Note: Not open to students with credit in ANTHR 420.

ANTHR 390 Advanced Physical Anthropology
★6 (3-0-3). Human skeletal biology; hominoid paleontology and micro-evolutionary change in the primates. Prerequisite: ANTHR 309, or a course in biology or zoology, or consent of Department.

ANTHR 391 Human Origins
★3 (either term, 3-0-0). Human paleontology and microevolution. Prerequisite: ANTHR 309 or consent of Department.

ANTHR 393 Health and Healing
★3 (either term, 3-0-0). A cross-cultural study through time of the beliefs and social activities associated with health, illness and healing. Prerequisite: ANTHR 101 or 201 or consent of the instructor.

ANTHR 396 Archaeological Field Training
★6 (3-0-3, Intersession). Instruction in all practical aspects of archaeological field techniques, including excavation, survey, recording, photography, and conservation. Held at a selected location in Alberta during Intersession. Prerequisite: ANTHR 306 or equivalent, and consent of Department.

THR 399 Third-Year Honors Seminar
(0-3s-0). Prerequisite: Consent of Department.

THR 400 Senior Seminar
(either term, 0-3s-0). Selected topics in anthropo-ical research. Note: Open only to those students with ncentration in Anthropology. Prerequisite: Consent of partment.

THR 401 Methods in Social/Cultural thropology
(either term, 0-3s-0). Prerequisite: ANTHR 307 or nsent of Department.

ITHR 403 North American Prehistory
(either term, 3-0-0). A survey of prehistory and tural development in North America. Prerequisite: ITHR 306 or consent of Department. Note: Not open students who have taken ANTHR 411.

NTHR 405 Lower Paleolithic Prehistory
3 (either term, 3-0-0). The development of prehistoric lture in Europe, Africa and Asia during the lower leolithic. Prerequisite: ANTHR 306 or consent of partment.

NTHR 406 Middle and Upper Paleolithic Prehistory
3 (either term, 3-0-0). The development of prehistoric lture in Europe, Africa, and Asia during the middle and per Paleolithic. Prerequisite: ANTHR 306 or consent Department.

NTHR 407 Paleopathology
3 (either term, 3-0-0). A detailed survey of disease ocesses in antiquity as expressed in skeletal and eserved tissues. Prerequisite: ANTHR 390 or 490, or nsent of Department.

NTHR 410 Sex and Status in Comparative erspective
3 (either term, 3-0-0). Sexual status as a biological nd as a cultural phenomenon. The social position of omen in various societies. Prerequisite: ANTHR 110 or onsent of Department.

NTHR 412 Slavery and Slave Societies
3 (either term, 3-0-0). Slavery as an organization of roduction and its implications for social and economic evelopment. Prerequisite: ANTHR 307 or consent of epartment. Note: ANTHR 225, or 227, or 277 recom-ended.

NTHR 414 Peasant Society and Culture
3 (either term, 3-0-0). The analysis of modes of roduction, social organization and other aspects of ulture in agrarian societies, including anthropological erspectives on development. Prerequisite: ANTHR 307 nd one other senior-level course.

NTHR 415 History of Anthropology
3 (either term, 3-0-0). A discussion of major figures nd theories of anthropology, intended as a background o current problems. Prerequisite: ANTHR 201 and 307.

NTHR 418 Political Anthropology
3 (either term, 3-0-0). An introduction to modern olitical anthropology with emphasis on the origins of tate structures, the relations between non-state and tate societies, and the problems of pluralism and tratification. Prerequisite: ANTHR 307 and one other enior-level course.

NTHR 419 Pastoral Societies
3 (either term, 3-0-0). A cross-cultural survey of both omadic and sedentary forms of pastoral adaptions tressing the relationship between herding and patterns f social organization, technology, ideology, and values. Prerequisite: ANTHR 307 or consent of Department.

NTHR 421 Revitalization Movements in nthropological Perspective
3 (either term, 3-0-0). The anthropological study of emerging religions; the relation of revitalization movements o social, political, and economic conditions. Prerequi-site: ANTHR 307 or consent of Department.

ANTHR 422 Ritual and Myth
★3 (second term, 3-0-0). Interpretive and other ap-proaches to the social and symbolic study of ritual performances and mythological narratives in a variety of cultures. Prerequisite: ANTHR 101 or 201 or 307, or consent of Department.

ANTHR 423 Ecological Anthropology
★3 (either term, 3-0-0). A consideration of the relation-ships between culture and the environment. Problems involving the application of basic ecological concepts and principles to human societies and evaluation of various explanatory frameworks regarding cultural adap-tations. Prerequisite: ANTHR 306 or 307, or consent of Department.

ANTHR 424 Economic Anthropology
★3 (either term, 3-0-0). An introduction to the literature and controversies within the field, with special emphasis on systems of exchange. Prerequisite: ANTHR 307 or consent of Department.

ANTHR 425 Anthropology of Work and Production
★3 (either term, 3-0-0). The organization of work and production, with emphasis on the effects of development on subsistence economies. Prerequisite: ANTHR 307 or consent of Department.

ANTHR 426 Anthropological Perspectives in Ethnomusicology
★3 (either term, 3-0-0). Theory and method in the anthropological study of non-Western music. Prerequi-site: ANTHR 307 or consent of Department.

ANTHR 427 Creative Expression I
★3 (first term, 3-0-0). The role of aesthetic expression in human evolution; general theories of aesthetic expres-sion; and the relation between aesthetic expression, personality, and culture. Prerequisite: ANTHR 307 or consent of Department.

ANTHR 428 Creative Expression II
★3 (second term, 3-0-0). Special topics relating to the anthropological study of aesthetic expression. Designed as a continuation of ANTHR 427. Prerequisite: ANTHR 427, or consent of Department.

ANTHR 430 Symbolic Anthropology
★3 (either term, 3-0-0). A review of symbolic approaches in anthropology as applied to classification, ideology, ceremonial usages, forms of social action and social relationships. Prerequisite: ANTHR 307 or 320 or consent of Department.

ANTHR 431 Multilingualism
★3 (either term, 3-0-0). Emphasis will be on multilingual communities. Prerequisite: ANTHR 308 or consent of Department.

ANTHR 433 The Ethnographic Study of Meaning
★3 (either term, 3-0-0). To deal with the problem of classificatory categories of non-Indo-European languages. Prerequisite: ANTHR 308 or consent of Department.

ANTHR 435 Language Prehistory
★3 (either term, 3-0-0). Language in time perspective and the reconstruction of culture history. Prerequisite: ANTHR 308, LING 101/102, or consent of Department.

ANTHR 441 Archaeometry
★3 (first term, 3-0-0). Analytical methodology for inter-preting the material record of the past; the structures of materials at the microscopic and macrosopic levels; raw materials and production technologies; provenance; dating; prospection; sampling and measure. Archaeological case studies are used throughout. Prerequisite: ANTHR 306 or consent of Department.

ANTHR 442 Applications of Archaeometry
★3 (second term, 0-0-3). A project course concerned with the interpretation of the material record of the past. Exposure to archaeometric laboratory techniques, and to the interpretation of results. A specific research project is to be undertaken. Prerequisite: ANTHR 441 or consent of Department.

ANTHR 445 Circumpolar Prehistory
★3 (either term, 3-0-0). A critical examination of ar-chaeological method and theory applied to the circumpolar regions. Prerequisite: ANTHR 246, one other course in anthropology, or consent of Department.

ANTHR 446 Circumpolar Ethnology
★3 (either term, 3-0-0). A critical examination of anthro-pological models applied to traditional societies in the circumpolar regions. Prerequisite: ANTHR 246, one other course in anthropology, or consent of Department.

ANTHR 447 Culture and the Individual I
★3 (first term, 3-0-0). A cross-cultural examination of the individual in society and culture and of the development of personality. Prerequisite: ANTHR 307 or consent of Department.

ANTHR 448 Culture and the Individual II
★3 (second term, 3-0-0). A continuation of ANTHR 447. Examines decision making and behavior in interaction with the environment. Prerequisite: ANTHR 447 or con-sent of Department.

ANTHR 450 Kinship and Marriage
★3 (either term, 3-0-0). A survey of the various systems of descent, marriage and kinship organization found in different parts of the world. Attention is given to several theoretical and analytical approaches, and emphasis is placed on the cultural and ideological aspects of kinship systems. Prerequisite: ANTHR 213 or 307, or consent of Department. Note: Not open to students with credit in ANTHR 413.

ANTHR 451 Social Structure
★3 (either term, 3-0-0). Anthropological theory and method concerning the analysis of kinship systems and other concepts of social organization with emphasis on data derived from non-Western societies. Prerequisite: ANTHR 307 or consent of Department. Note: Not open to students with credit in ANTHR 413.

ANTHR 455 Aboriginal Rights
★3 (either term, 3-0-0). Topics related to the concept of aboriginal rights; questions about 'special' political rights of aboriginal peoples in Canada. Prerequisite: An introductory course in social or cultural anthropology, or history, or political science, or sociology, or consent of Department.

ANTHR 461 Theory in Social Anthropology
★6 (3-0-0). A comparative examination of several contemporary social-anthropological theories of the struc-ture of society including functionalism, adaptation-evolutionary theory, structuralism, and Marx-ism. Prerequisite: ANTHR 307 or consent of Depart-ment.

ANTHR 463 The Origins of Food Production
★3 (either term, 0-3s-0). Archaeological evidence for the development of food production in the Old and New Worlds, discussed in the context of the major explanatory theories advanced. Prerequisite: ANTHR 306 or consent of Department.

ANTHR 465 Cultural Transmission
★3 (either term, 3-0-0). The ethnographic study of enculturation, education and cultural change. Prerequi-site: ANTHR 307 or EDFDN 410 or consent of Department.

ANTHR 466 Theories of Culture Change
★3 (either term, 3-0-0). Theories of the nature of socio-cultural systems and the processes of change. Prerequi-site: ANTHR 101 or 201 or 307, or consent of Department.

ANTHR 467 Applied Anthropology
★3 (either term, 3-0-0). The application of anthropolo-gists' theory and method to contemporary problems of development. Prerequisite: ANTHR 101 or 201 or 307, or consent of Department.

ANTHR 470 American Indian Linguistics
★3 (either term, 3-0-0). The study of Amerindian languages with special reference to problems of classification, to socio-cultural correlates of structural characteristics, and to the use of non-linguistic evidence for linguistic prehistory. Prerequisite: ANTHR 308, LING 203, or consent of Department.

ANTHR 471 Readings in Anthropology I
★3 (first term, 0-3s-0). Prerequisite: Consent of Depart-ment.

ANTHR 472 Readings in Anthropology II
★3 (second term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 473 Dene Society in Anthropological Perspective
★3 (either term, 3-0-0). A critical examination of anthro-pological perseptives on Dene society, culture and ethnohistory. Prerequisite: ANTHR 101 or 201 or 307, or consent of Department.

ANTHR 478 Advanced Studies in Latin American Indian Communities
★3 (either term, 0-3s-0). Analysis and comparison of selected Indian communities. Emphasis on cultural ecology, social organization, values and world view, and relations with non-Indian society. Prerequisite: ANTHR 261, or 262, or another course on Latin America, or consent of Department.

ANTHR 479 Geoarchaeology
★3 (first term, 3-0-3). Application of earth science methods to archaeological research. Prerequisite: ANTHR 306 and one of GEOL 102/103, 201/204, 292, GEOG 130/131, or 330. Not open to students who have taken ANTHR 498.

ANTHR 481 Development of Archaeological Method and Theory
★3 (either term, 3-0-0). A survey of the approaches and practices used in archaeology prior to 1960; concepts and models used for interpreting archaeological data and cultural history; the relation of culture historical explanations to general anthropological theory. Prereq-uisite: ANTHR 306 and three other 400-level units of course weight in Anthropology, or consent of Department.

ANTHR 484 Advanced Readings in Anthropology I
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 485 Readings in Social Anthropology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 486 Advanced Readings in Anthropology II
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 487 Readings in Regional Ethnology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 488 Quaternary Pollen Analysis
★3 (second term, 3-0-3). Prerequisite: Consent of Department.

ANTHR 490 Human Osteology for Archaeologists
★3 (either term, 0-3s-3). Seminar and laboratory work on human osteology and prehistoric human skeletons. Prerequisite: Consent of Department.

ANTHR 491 Stone Tools
★3 (either term, 3-0-3). A methodological and theoretical introduction to the analysis of stone tools. Prerequisite: ANTHR 306 and one other 400-level course in Anthropology, or consent of Department.

ANTHR 492 Problems in Primate Behavior
★3 (either term, 3-0-0). Examines kin selection in primates, sexual differentiation of behavior, evolution of primate behavior patterns, appropriateness of infraprimate analogies to human behavior. Prerequisite: ANTHR 392 or consent of Department.

ANTHR 493 Field Methods in Primate Studies
★6 (3-0-3). Observational techniques of primate ethology; research design and analysis in behavioral studies; methods of working with living primates under field conditions. Prerequisite: ANTHR 392, or equivalent, and consent of Department.

ANTHR 494 Forensic Anthropology
★3 (either term, 0-3s-0). Human skeletal individualization and its application to human death investigation. Prerequisite: ANTHR 390 or 490, or consent of Department.

ANTHR 495 Archaeological Methods
★3 (either term, 3-0-3). The application of archaeological theory and methods to field and laboratory problems. Prerequisite: ANTHR 306, and one other 400-level course in Anthropology, or consent of Department.

ANTHR 496 Advanced Readings in Anthropology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 497 Peopling of the Americas
★3 (either term, 0-3s-0). A survey and critical appraisal of the evidence and theoretical positions bearing upon the entry, dispersal, settlement and adaptations to various regions of the Americas by the original Amerindian colonists. Prerequisite: Consent of Department.

ANTHR 499 Fourth-Year Honors Seminar and Honors Paper
★6 (0-3s-0). Prerequisite: Consent of Department.

ANTHR 502 General Scope of Anthropology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 503 The Anthropology of Conflict
★3 (either term, 0-3s-0). Seminar in cross-cultural research. Prerequisite: Consent of Department. Restricted to graduate and fourth year honors students in anthropology; other students require consent of Department.

ANTHR 506 Ethnological Research Methods, Socio-Cultural Processes in the Modern World
★3 (either term, 0-3s-0). Note: Not open to students with credit in ANTHR 504.

ANTHR 508 Methods in Linguistic Anthropology
★3 (either term, 0-3s-3). Selected topics in field methods and analytic techniques used by linguistic anthropologists, and their extensions in socio-cultural anthropology. Prerequisite: Consent of Department.

ANTHR 509 Symbolic and Cognitive Analysis
★3 (either term, 0-3s-0). Note: Not open to students with credit in ANTHR 504.

ANTHR 510 Theory of Culture
★3 (either term, 0-3s-0). Past and current thought concerning the nature of culture and cultural change, and such concepts as cultural evolution, diffusion, invention, acculturation, patterns, and themes. Prerequisite: Consent of Department.

ANTHR 511 Ethnographic Field Methods I
★3 (first term, 0-3s-0). Prerequisite: Consent of Department. Note: Not open to students with credit in ANTHR 505.

ANTHR 512 Ethnographic Field Methods II
★3 (second term, 0-3s-0). Prerequisite: ANTHR 511 or consent of Department. Note: Not open to students with credit in ANTHR 505.

ANTHR 513 The Transmission of Culture: Enculturation
★3 (either term, 0-3s-0). Note: Not open to students with credit in ANTHR 515. Prerequisite: Consent of Department.

ANTHR 514 The Transmission of Culture: Development and Change
★3 (either term, 0-3s-0). Note: Not open to students with credit in ANTHR 515.

ANTHR 516 Selected Problems of Modern East Asia
★3 (either term, 0-3s-0). Prerequisite: Consent of Department. Restricted to graduate students in anthropology; other students require consent of Department.

ANTHR 521 Topics in Medical Anthropology
★3 (second term, 0-3s-0). Prerequisite: ANTHR 393 or 407; or consent of Department.

ANTHR 530 Comparative Agrarian Societies
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 535 Anthropology and the Nation-state
★3 (either term, 0-3s-0). Prerequisite: Consent of Department. Restricted to graduate students in Anthropology, Sociology, Political Science, or Economics.

ANTHR 537 Seminar in Anthropology of Development
★3 (either term, 0-3s-0). Prerequisite: Consent of Department. Restricted to graduate and fourth year honors students in anthropology.

ANTHR 540 Conference Course in Regional Ethnology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 541 Conference Course in Regional Archaeology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 542 Individual Research
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 544 Advanced Readings in Social Anthropology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 549 Advanced Readings in Regional Ethnology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 550 Topics in Social and Cultural Anthropology I
★3 (first term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 551 Topics in Social and Cultural Anthropology II
★3 (second term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 552 Topics in Archaeology and/or Physical Anthropology I
★3 (first term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 553 Topics in Archaeology and/or Physical Anthropology II
★3 (second term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 554 Seminar in Social and Cultural Anthropology I
★3 (first term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 555 Seminar in Social and Cultural Anthropology II
★3 (second term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 556 Seminar in Archaeology and/or Physical Anthropology I
★3 (first term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 557 Seminar in Archaeology and/or Physical Anthropology II
★3 (second term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 558 Contemporary Problems in Anthropology I
★3 (first term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 559 Contemporary Problems in Anthropology II
★3 (second term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 581 Contemporary Archaeological Method and Theory
★3 (either term, 0-3S-0). A survey of the approaches and practices used in archaeology since 1960. Prerequisite: ANTHR 481, or consent of Department.

ANTHR 591 Advanced Readings in Archaeology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 593 Evolution and Social Life
★3 (either term, 0-3s-0). Theories of the origin and evolution of the human phenotype and ecological niche, the sexual division of labor, kinship and the family, language and self-awareness. Prerequisite: Consent of Department.

INT D 594 Quaternary Environments
★6 (3-0-0). A comprehensive survey of the Quaternary period; dating methods, paleoclimates, vertebrates, case studies in stratigraphy and paleoecology. Note: Not open to students with credit in ANTHR 594. Prerequisite: GEOL 492 or GEOG 432 or a related 400-level course in Anthropology, Botany, Geology, Zoology, Forest Science or Soil Science. (Offered jointly by the Departments of Anthropology and Geology). [Geology].

ANTHR 595 Seminar in Archaeology
★3 (either term, 0-3s-3). Prerequisite: Consent of Deparment.

ANTHR 598 Prehistoric Cultural Ecology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 599 Seminar in Paleoenvironmental Studies
★3 (second term, 0-3s-0). Prerequisite: ANTHR 488 and 498, or consent of Department.

44.4 Arabic

Department of Religious Studies

44.4.1 Junior Course

ARAB 100 Beginner's Arabic
★6 (3-0-2). An introduction to pronunciation, reading, writing, and conversation for those with no previous knowledge of Arabic.

44.4.2 Senior Courses

ARAB 301 Intermediate Arabic I
★3 (first term, 3-0-0). A continuation of ARAB 100, with emphasis on building an extensive vocabulary in everyday situations. Continued efforts to improve oral skills. Prerequisite: ARAB 100 or consent of Department. Note: Not open to students with credit in ARAB 300.

ARAB 302 Intermediate Arabic II
★3 (second term, 3-0-0). Selected readings in ancient and modern literature. Exercises in comprehension, translation and composition. Further study of grammar. Prerequisite: ARAB 301 or consent of Department. Note: Not open to students with credit in ARAB 300.

ARAB 401 Advanced Modern Arabic
★3 (first term, 3-0-0). Selected readings in contemporary Arabic literature; creative and critical writing. Survey of modern Arabic literature; further study of grammar. Prerequisite: ARAB 302 or consent of Department. Note: Not open to students with credit in ARAB 400.

ARAB 402 Classical Arabic
★3 (second term, 3-0-0). Readings from the Qur'an; An-Nawawi's Forty Hadith; and selections from ancient Arabic literature (the pre-Islamic, Umayyad and Abbasid periods) with special reference to al-Jahiz, al-Mutanabbi and Ibn Khaldun; further study of grammar. Prerequisite: ARAB 401 or consent of Department. Note: Not open to students with credit in ARAB 400.

ARAB 499 Problems and Topics in Arabic Language and/or Literature
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

44.5 Art and Design

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
ART 231	ART 131	ART H 405	ART H 471
ART 232	ART 132	ART H 406	ART H 481
ART 233	ART 133	ART H 407	ART H 474
ART 368	ART 268	ART H 409	ART H 401
ART H 201	ART H 101	ART H 450	ART H 409
ART H 202	ART H 102	ART H 454	ART H 483
ART H 301	ART H 211	ART H 455	ART H 472
ART H 302	ART H 231	ART H 456	ART H 482
ART H 303	ART H 251	ART H 457	ART H 484
ART H 304	ART H 273	ART H 459	ART H 402
ART H 305	ART H 271	ART H 504	ART H 583
ART H 306	ART H 281	ART H 505	ART H 571
ART H 351	ART H 221	ART H 506	ART H 581
ART H 352	ART H 232	ART H 507	ART H 574
ART H 353	ART H 261	ART H 555	ART H 572
ART H 354	ART H 283	ART H 556	ART H 582
ART H 355	ART H 272	ART H 557	ART H 584
ART H 356	ART H 282	ART H 558	ART H 504
ART H 357	ART H 274	ART H 559	ART H 501
ART H 404	ART H 473	DES 368	DES 268

Note: Since presence at lectures and seminars, participation in classroom discussion, and the completion of assignments are important components of most courses, students will serve their best interest by regular attendance.

This particularly applies to studio courses and to seminars in the history of art and design, where attendance will be a factor in grading.

The Department of Art and Design normally retains
amples of students' work executed for class projects
tudio courses.
Safe studio practice is of great concern and stu-
nts are advised to refer to §16.5 of this Calendar.

4.5.1 Junior Courses in the History of Art and Design

T H 101 Introduction to the History of Art I
(either term, 3-0-0). Introduction to Western Art and
sign to the end of the fourteenth century by analysis
selected works and movements.

T H 102 Introduction to the History of Art II
(either term, 3-0-0). Introduction to Western Art and
sign from the fifteenth century to the present by
alysis of selected works and movements.

4.5.2 Junior Courses in Studio

T 131 Visual Fundamentals
(2-0-4). A studio based introduction to the explora-
n and production, in two and three dimensions, of
ually expressed information. Note: Not open to students
h credit in ART 132.

T 132 Visual Fundamentals
(4-0-8). A studio based course that provides BFA
dents with an introduction to the exploration and
oduction, in two and three dimensions, of visually-
pressed information. Note: Restricted to BFA stu-
nts. Full course offered in the first term.

T 133 Visual Fundamentals
(4-0-8). A studio based course that provides BFA
dents with a further concentration in the exploration
d production, in two and three dimensions, of visually
pressed information. Prerequisite: ART 132 and con-
nt of Department. Note: Full course offered in the
cond term.

4.5.3 Senior Courses in the History of Art and Design

RT H 211 Survey of Medieval Art I
3 (either term, 3-0-0). The history of the visual arts of
e early Middle Ages (fourth to eleventh centuries) in
urope.

RT H 231 Survey of Renaissance Art I
3 (either term, 3-0-0). The history of the visual arts of
e fifteenth century in Northern Europe.

RT H 232 Survey of Renaissance Art II
3 (either term, 3-0-0). The history of the visual arts of
e fifteenth century in Italy.

RT H 251 Survey of Seventeenth Century Art I
3 (either term, 3-0-0). The history of the visual arts of
e seventeenth century in Europe.

RT H 261 Survey of Eighteenth Century Art
3 (either term, 3-0-0). The history of the visual arts of
urope during the eighteenth century.

RT H 271 Survey of Nineteenth-Century Art I
3 (either term, 3-0-0). The history of the visual arts of
e first half of the nineteenth century in Europe.

RT H 272 Survey of Nineteenth-Century Art II
3 (either term, 3-0-0). The history of the visual arts of
e second half of the nineteenth century in Europe.

RT H 273 Survey of Early Canadian Art
3 (either term, 3-0-0). The history of the visual arts
om the seventeenth century to the end of the nineteenth
entury in Canada.

RT H 274 Survey of the History of Design
3 (either term, 3-0-0). The history of the design and
rnamentation of useful objects since the Industrial
evolution.

RT H 281 Survey of Twentieth-Century Art I
3 (either term, 3-0-0). The history of the visual arts up
) World War II in Europe and North America.

RT H 282 Survey of Twentieth-Century Art II
3 (either term, 3-0-0). The history of the visual arts of
e twentieth century from World War II to the present, in
urope and North America.

RT H 283 Survey of Twentieth Century Canadian
rt
3 (either term, 3-0-0). The history of the visual arts of
e twentieth century in Canada.

RT H 371 Aspects of Nineteenth-Century Art I
3 (either term, 3-0-0). Selected aspects of the history
f the visual arts in the first half of the nineteenth
entury. Prerequisite: ART H 271.

ART H 372 Aspects of Nineteenth Century Art II
★3 (either term, 3-0-0). Selected aspects of the history of the visual arts in the second half of the nineteenth century. Prerequisite: ART H 272.

ART H 381 Aspects of Twentieth Century Art I
★3 (either term, 3-0-0). Selected aspects of the history of the visual arts in the first half of the twentieth century. Prerequisite: ART H 281.

ART H 382 Aspects of Twentieth Century Art II
★3 (either term, 3-0-0). Selected aspects of the history of the visual arts in the second half of the twentieth century. Prerequisite: ART H 282.

ART H 402 Directed Readings in the History of Art
★3 (either term, 0-3s-0) or ★6 (0-3s-0). A directed reading course designed to satisfy special needs of advanced Honors students and others not otherwise met by annual course offerings. Prerequisite: Consent of Department.

ART H 408 Special Topics I
★3 (either term, 0-3s-0). Topics other than those listed in 400-level courses. Prerequisite: Consent of Department.

ART H 471 Topics in Art from the First Half of the Nineteenth Century
★3 (either term, 0-3s-0). Neo-Classicism, Romanticism, Realism, Pre-Raphaelitism, etc. Prerequisite: ART H 271 and consent of Department.

ART H 472 Topics in Art from the Second Half of the Nineteenth Century
★3 (either term, 0-3s-0). Impressionism, Neo-Impressionism, Symbolism, Art Nouveau, etc. Prerequisite: ART H 272 and consent of Department.

ART H 473 Topics in Early Canadian Art
★3 (either term, 0-3s-0). Prerequisite: ART H 273 and consent of Department.

ART H 474 Topics in Design in the Nineteenth Century
★3 (either term, 0-3s-0). Theories of Design, Functionalism and Ornament, The Arts and Crafts Movement, Design and Mechanization, etc. Prerequisite: ART H 274 and consent of Department.

ART H 481 Topics in Art from the Beginning of the Twentieth Century
★3 (either term, 0-3s-0). Cubism, Constructivism, Supremetism, Surrealism, Dada, etc. Prerequisite: ART H 281 and consent of Department.

ART H 482 Topics in Art from the Second Half of the Twentieth Century
★3 (either term, 0-3s-0). Abstract Expressionism, Pop Art, Kinetic Art, Conceptual Art, Color Field painting, etc. Prerequisite: ART H 282 and consent of Department.

ART H 483 Topics in Twentieth-Century Canadian Art
★3 (either term, 0-3s-0). Regionalism, Landscape, Abstractionism. Prerequisite: ART H 283 and consent of Department.

ART H 484 Topics in Design in the Twentieth Century
★3 (either term, 0-3s-0). Machine Aesthetics, Art Nouveau, etc. Prerequisite: ART H 274 and consent of Department.

44.5.4 Senior Courses in Studio

ART 240 Drawing
★3 (either term, 2-0-4). Study of the principles and techniques of drawing. Note: Restricted to BFA students.

ART 312 Painting
★6 (2-0-4). Introduction to the principles and techniques of painting. Prerequisite: ART 131, or 232, and consent of Department.

ART 313 Painting
★6 (2-0-4). Continuing introduction to the principles and techniques of painting. Prerequisite or corequisite: ART 312 and consent of Department.

ART 322 Printmaking
★6 (2-0-4). Introduction to the principles and technical applications of printmaking through the study of screen printing, intaglio and relief process. Prerequisite: ART 131 or 132 and consent of Department.

ART 323 Printmaking
★6 (2-0-4). Further study of the principles and technical applications of screen printing, relief and intaglio processes with an emphasis on the use of color. Prerequisite or corequisite: ART 322 and consent of Department.

ART 337 Special Projects in Studio Disciplines
★6 (2-0-4). A course intended to meet the special needs of students not otherwise satisfied under existing regulations in regular course offerings. Prerequisite: Consent of Department.

DES 338 Special Projects in Studio Disciplines
★3 (2-0-4). To be offered in Intersession only. An introductory design course intended to meet special teaching needs not otherwise satisfied under existing course offerings. Prerequisite: ART 131 and consent of Department.

ART 338 Special Projects in Studio Disciplines
★3 (2-0-4). To be offered in Intersession only. An introductory art course intended to meet special teaching needs not otherwise satisfied under existing course offerings. Prerequisite: ART 131 and consent of Department.

DES 339 Special Projects in Studio Disciplines
★6 (2-0-4). A course intended to meet the special needs of students not otherwise satisfied under existing regulations in regular course offerings. Prerequisite: Consent of Department.

ART 339 Special Projects in Studio Disciplines: Drawing
★6 (2-0-4). Note: Normally not offered during the course of the Winter Session. BFA students may use ART 339 in lieu of ART 240/340 upon consent of Department. Prerequisite: ART 131 or 132, and consent of Department.

ART 340 Drawing
★3 (either term, 2-0-4). Development and application of techniques and concepts of drawing. Note: Restricted to BFA students. Prerequisite: ART 240.

ART 362 Sculpture
★6 (2-0-4). Foundation studies in sculpture. Prerequisite: ART 131, or 132, and consent of Department.

ART 363 Sculpture
★6 (2-0-4). Further foundation studies in sculpture. Prerequisite or corequisite: ART 362 and consent of Department.

DES 372 Industrial Design
★6 (2-0-4). Foundation studies in drafting, perspective drawing and two-dimensional layout for design and foundation studies in three-dimensional design principles and problem-solving. Prerequisite: ART 131 or 132, and consent of Department.

DES 373 Industrial Design
★6 (2-0-4). Foundation studies in sketching, rendering and two-dimensional presentation and foundation studies in the materials, processes and practice of three-dimensional scale model making. Prerequisite or corequisite: DES 372 and consent of Department.

DES 392 Visual Communication Design
★6 (2-0-4). Introduction to the study and practice of design principles and techniques in photography and typography. Prerequisite: ART 131, or 132, and/or consent of Department.

DES 393 Visual Communication Design
★6 (2-0-4). Study and practice of design principles and techniques, mainly in two-dimensional media. Prerequisite: ART 392 and/or consent of Department.

ART 412 Painting
★6 (2-0-4). Further study of the principles and techniques of painting. Prerequisite: Normally, ART 312 and consent of Department.

ART 413 Painting
★6 (2-0-4). Directed individual study for students wishing to specialize further in painting. Students will be encouraged to explore both contemporary and traditional mediums. Prerequisite or corequisite: Normally, ART 412 and consent of Department.

ART 414 Projects in Painting
★6 (2-0-4). A specialized course for students concentrating in painting. Prerequisite: Consent of Department.

ART 422 Printmaking
★6 (2-0-4). Study of the principles and technical applications of printmaking with an emphasis on lithography and etching. Prerequisite: ART 322 and consent of Department.

ART 423 Printmaking
★6 (2-0-4). Further study of the principles and technical applications of lithography and etching with an emphasis on the use of color. Prerequisite or corequisite: ART 422 and consent of Department.

ART 424 Printmaking
★6 (2-0-4). Directed individual study of drawing and image-making processes and their application in (printmaking. Prerequisite or corequisite: ART 422 and consent of Department.

ART 437 Special Projects in Studio Disciplines
★6 (2-0-4). A course intended to meet the special needs of students not otherwise satisfied under existing regulations in regular course offerings. Prerequisite: Consent of Department.

DES 438 Special Projects in Studio Disciplines
★3 (2-0-4). To be offered in Intersession only. An intermediate design course intended to meet special teaching needs not otherwise satisfied under existing course offerings. Prerequisite: Three 300-level studio courses in Art and Design and consent of Department.

ART 438 Special Projects in Studio Disciplines
★3 (2-0-4). To be offered in Intersession only. An intermediate art course intended to meet special teaching needs not otherwise satisfied under existing course offerings. Prerequisite: Three 300-level studio courses in Art and Design and consent of Department.

DES 439 Special Projects in Studio Disciplines
★6 (2-0-4). Special projects in studio disciplines by special arrangement with the Department. Prerequisite: Consent of Department.

ART 439 Special Projects in Studio Disciplines: Drawing
★6 (2-0-4). Note: Normally not offered during the course of the Winter Session. BFA students may use ART 439 in lieu of ART 440 upon consent of Department. Prerequisite: ART 240/340 or ART 339 and consent of Department.

ART 440 Drawing
★6 (2-0-4). Further study and application of the techniques and concepts of drawing. Note: Restricted to BFA students. Prerequisite: ART 339 or ART 340.

ART 462 Sculpture
★6 (2-0-4). Intermediate studies in sculpture. Prerequisite: ART 362 and/or consent of Department.

ART 463 Sculpture
★6 (2-0-4). Further intermediate studies in sculpture. Prerequisite or corequisite: ART 462 and/or consent of Department.

ART 464 Sculpture
★6 (2-0-4). Additional intermediate studies in sculpture. Prerequisite or corequisite: ART 463 and/or consent of Department.

DES 472 Industrial Design
★6 (2-0-4). Intermediate studies in the principles and practice of product design. Prerequisite: DES 372, and consent of Department.

DES 473 Industrial Design
★6 (2-0-4). Intermediate studies in the principles and practice of furniture design. Prerequisite: DES 372, and consent of Department.

DES 474 Industrial Design
★6 (2-0-4). Intermediate studies in design resources, research, and communication. Prerequisite or corequisite: DES 472, or 473, and consent of Department.

DES 492 Visual Communication Design
★6 (2-0-4). Intermediate study and practice of design principles and techniques in graphic design including photography, typography, and illustration. Prerequisite: Normally, DES 392 and/or consent of Department.

DES 493 Visual Communication Design
★6 (2-0-4). Further intermediate study and practice of design principles and techniques with emphasis on photographic media. Prerequisite or corequisite: Normally, DES 492 and/or consent of Department.

DES 494 Visual Communication Design
★6 (2-0-4). Additional intermediate study and practice of design principles and techniques with emphasis on typographic media. Prerequisite or corequisite: Normally, DES 492 and/or consent of Department.

ART 512 Painting
★6 (2-0-4). Advanced study in the principles and techniques of painting. Prerequisite: Normally, ART 412 and consent of Department.

ART 513 Painting
★6 (2-0-4). Individual directed study for students wishing to specialize further in painting at an advanced level. Prerequisite or corequisite: Normally, ART 512 and consent of Department.

ART 514 Projects in Painting
★6 (2-0-4). A specialized course for advanced students concentrating in painting. Prerequisite: Normally, consent of Department.

ART 522 Printmaking
★6 (2-0-4). Advanced study of the principles and technical applications of printmaking with an emphasis on mixed media in both traditional and experimental techniques. Prerequisite: ART 422 and consent of Department.

ART 523 Printmaking
★6 (2-0-4). Introduction to principles and technical applications of photography and photographic techniques in both traditional and experimental printmaking media. Prerequisite or corequisite: ART 522 and consent of Department.

ART 524 Printmaking
★6 (2-0-4). Advanced individual study of drawing and other image-making processes and their application in printmaking. Prerequisite or corequisite: ART 523 and consent of Department.

DES 538 Special Projects in Studio Disciplines
★3 (2-0-4). To be offered in Intersession only. An advanced design course intended to meet special teaching needs not otherwise satisfied under existing course offerings. Prerequisite: Three 400-level studio courses in Art and Design and consent of Department.

ART 538 Special Projects in Studio Disciplines
★3 (2-0-4). To be offered in Intersession only. An advanced art course intended to meet special teaching needs not otherwise satisfied under existing course offerings. Prerequisite: Three 400-level studio courses in Art and Design and consent of Department.

DES 539 Special Projects in Studio Disciplines
★6 (2-0-4). Special projects in studio disciplines, by special arrangement with the Department. Prerequisite: Consent of Department.

ART 539 Special Projects in Studio Disciplines: Drawing
★6 (2-0-4). Normally not offered during the course of the Winter Session. BFA students may use ART 539 in lieu of ART 540 upon consent of Department. Prerequisite: ART 439 or ART 440 and consent of Department.

ART 540 Drawing
★6 (2-0-4). Prerequisite: ART 440. Note: Restricted to BFA students.

ART 562 Sculpture
★6 (2-0-4). Advanced studies in sculpture. Prerequisite: ART 462 and/or consent of Department.

ART 563 Sculpture
★6 (2-0-4). Further advanced studies in sculpture. Prerequisite or corequisite: ART 562 and/or consent of Department.

ART 564 Sculpture
★6 (2-0-4). Additional advanced studies in sculpture. Prerequisite or corequisite: ART 563 and/or consent of Department.

DES 572 Industrial Design
★6 (2-0-4). Advanced studies in the principles and practice of product design with particular emphasis on project management. Prerequisite: DES 472, or 473 and consent of Department.

DES 573 Industrial Design
★6 (2-0-4). Advanced studies in the principles and practice of furniture design and project management. Prerequisite: DES 472 or 473 and consent of Department.

DES 574 Industrial Design
★6 (2-0-4). Advanced studies in the principles of professional industrial design practice. Prerequisite or corequisite: DES 572, or 573, and consent of Department.

DES 592 Visual Communication Design
★6 (2-0-4). Advanced study in the principles and techniques of graphic design. Projects include application of graphic design to real-life situations. Prerequisite: DES 492 and consent of Department.

DES 593 Visual Communication Design
★6 (2-0-4). Further advanced studies in the design principles and techniques of photographic media. Applied and expressive modes are explored. Prerequisite: DES 493. Prerequisite or corequisite: DES 592 and consent of Department.

DES 594 Visual Communication Design
★6 (2-0-4). Further advanced studies in the design principles and techniques of typographic media. Applied and experimental modes are explored. Prerequisite or corequisite: DES 592 and consent of Department.

44.5.5 Honors Courses in the History of Art and Design

ART H 501 Special Subject, Fourth-Year Honors
★6 (0-3s-0). Preparation of the Honors essay, required in the fourth year of the Honors Program.

Note: For graduate courses in the History of Art and Design refer to §204.8.4 of this Calendar.

44.5.6 Service Courses

ART 268 Introduction to Studio
★3 (first term, 2-0-4). Directed study in one subject embraced by ART 312, 322, 362. Prerequisite: ART 131, or 132, and consent of Department. Note: Restricted to students in the Faculty of Education only.

DES 268 Introduction to Studio
★3 (first term, 2-0-4). Directed study in one subject embraced by DES 372 or DES 392. Prerequisite: ART 131, or 132, and consent of Department. Note: Restricted to students in the Faculty of Education only.

44.5.7 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department and/or the University timetable.

ART H 221 Survey of Medieval Art II
★3 (either term, 3-0-0). The history of the visual art f the later Middle Ages (eleventh to fifteenth centuries Europe.

ART H 300 East Asian Art I
★3 (either term, 3-0-0). The history of the visual art China from Shang to Sung.

ART H 350 East Asian Art II
★3 (either term, 3-0-0). The history of the visual art Japan to the Edo period.

ART 382 Visual Aspects of Film and Video
★6 (2-0-4). A theoretical and practical study of visual, aesthetic, and expressive capabilities of kin images and their production within the context of vis fundamentals and visual communication design. Prer uisite: ART 131, or 132, and consent of Department.

ART H 401 Bibliography and Methods
★3 (either term, 0-3s-0). Research techniques use the History of Art and Design. Prerequisite: Consen Department.

ART H 409 Aspects of Museology
★3 (either term, 0-3s-0). Discussion and practical st of museum operation from the point of view of the historian and curator, including care, preservation, display of works of art. Prerequisite: Two senior History courses and consent of Department.

44.6 Bulgarian

Department of Slavic and East Europe Studies

The following table lists renumbered courses effect 1991-92:

Old	New	Old	New
BULG 303	BULG 201	BULG 304	BULG 202

44.6.1 Junior Courses

BULG 100 Beginner's Bulgarian
★6 (3-0-2). Essentials of grammar, reading and pron ciation. Designed to provide a working knowledge of t Bulgarian language.

44.6.2 Senior Courses

BULG 201 Second Year Bulgarian I
★3 (first term, 3-0-1). Bulgarian grammar, composit oral practice, and selected readings from classical a modern Bulgarian literature. Prerequisite: BULG 100.

BULG 202 Second Year Bulgarian II
★3 (second term, 3-0-1). This course is a continuation BULG 303. Prerequisite: BULG 201.

44.7 Canadian Studies

The following table lists renumbered courses effecti 1990-91:

Old	New
CANST 301	CANST 350
CANST 400	CANST 450
CANST 409	CANST 520

44.7.1 Senior Courses

Students seeking credit in CANST 350, or any 40 level or above CANST courses, should consult th Canadian Studies program before registering.

CANST 200 An Introduction to Canadian Studies
★3 (either term, 2-1s-0). Introduces students to th interdisciplinary study of Canada by relating significa expressions of Canadian social, political and cultur concerns and understandings, so as to highlight Canada distinctive place in North America and the world.

CANST 302 Canada's North: The Human Dimensior
★3 (either term, 3-0-0). An interdisciplinary social sc ence survey of northern Canada with reference to pattern of relationships both in northern Canada and betwee the North and the rest of Canada.

CANST 305 The Politics of the Arts in Canada I
★3 (first term, 3-0-0). A comparative study of private an public arts organizations and activities at the federa level; cultural nationalism; issues and outcomes in cu tural policy. Note: Not to be taken by students with cred in CANST 300.

CANST 306 The Politics of the Arts in Canada II
(second term, 3-0-0). A comparative study of private public arts organizations and activities at the provincial municipal levels; regional, provincial and local diver- issues and outcomes in cultural policy. Note: Not to taken by students with credit in CANST 300.

CANST 350 Canadian Intellectual Traditions
(1-2s-0). An interdisciplinary lecture/seminar course traces recurrent themes in Canadian thought, from 0 to 1960, with emphasis on how ideas have historically nd expression in the politics, economics, social ictures, educational systems and art forms of Canada. requisite: Reading competence in French and con- t of the instructor.

CANST 401 Seminar in Canadian Studies
(first term, 0-3s-0).

CANST 402 Seminar in Canadian Studies
(second term, 0-3s-0).

CANST 403 Science and Public Policy in Canada
(either term, 0-3s-0). The relationship of science to er public affairs in Canada and the effect of eco- nic, political and cultural forces on the formulation of ance policy.

CANST 404 Canadian Culture, Communication and ticism
(either term, 0-3s-0). An interdisciplinary examina- n of Canadian culture and communications, as informed selected critical writings.

CANST 408 Advanced Studies on Canada's rthern Peoples
(either term, 0-3s-0). Interdisciplinary seminar on ntemporary issues facing residents of Canada's north.

CANST 450 Contemporary Canadian Issues
(0-3s-0). An interdisciplinary examination of selected itical, economic, social, and cultural problems facing nada at the present time.

CANST 510 Directed Readings in Canadian Studies
(either term, 0-3s-0). Designed to meet the needs of ividual students, normally in the final year of the BA anadian Studies), the BA (Etudes canadiennes) or nors in Canadian Studies.

CANST 520 Honors Essay: Fourth Year Honors nadian Studies
(0-3s-0). Preparation of the Honors essay required in fourth year of the program.

1.8 Chinese

Department of East Asian Languages and Literatures

e following table lists renumbered courses effective 90-91:

d	New	Old	New
HINA 300	CHINA 200	CHINA 326	CHINA 226
HINA 301	CHINA 201	CHINA 341	CHINA 441
HINA 302	CHINA 202	CHINA 342	CHINA 442
HINA 307	CHINA 301	CHINA 403	CHINA 417
HINA 308	CHINA 302	CHINA 404	CHINA 418
HINA 311	CHINA 211	CHINA 411	CHINA 311
HINA 312	CHINA 212	CHINA 412	CHINA 312
HINA 325	CHINA 225	CHINA 441	CHINA 541
		CHINA 442	CHINA 542

e following table lists renumbered courses effective 91/92:

d	New	Old	New
HINA 350	CHINA 250	CHINA 450	CHINA 350

4.8.1 Junior Courses

Those students wishing to major in Chinese are rongly encouraged to start with the intensive courses. e following courses are designed primarily for stu- nts whose first language is *not* Chinese, and are not en to students with credit in matriculation-level inese.

CHINA 100 Intensive Spoken Chinese
6 (either term, 0-10L-0). An intensive introduction to al/aural Mandarin Chinese. This course is equivalent CHINA 101/102. Normally students proceed from HINA 100 to 200. CHINA 100 and 101/102 may not oth be taken for credit.

CHINA 101 Non-Intensive Spoken Chinese I
3 (either term, 3-0-2). A non-intensive introduction to al/aural Mandarin Chinese. CHINA 100 and 101 may ot both be taken for credit.

CHINA 102 Non-Intensive Spoken Chinese II
3 (either term, 3-0-2). A continuation of CHINA 101. rerequisite: CHINA 101. CHINA 100 and 102 may not oth be taken for credit.

44.8.2 Senior Courses

With the exception of CHINA 211, 212, 311 and 312, the following courses are designed primarily for students whose first language is *not* Chinese.

CHINA 200 Intensive Written Chinese
★6 (second term, 0-10L-0). An intensive introduction to the Chinese written language. CHINA 200 and 201/202 may not both be taken for credit. Prerequisite: CHINA 100 or 102.

CHINA 201 Non-Intensive Written Chinese I
★3 (either term, 3-0-1). An introduction to the Chinese written language. CHINA 200 and 201 may not both be taken for credit. Prerequisite: CHINA 100 or 102. Note: Not open to students with credit in CHINA 303. Formerly CHINA 303.

CHINA 202 Non-Intensive Written Chinese II
★3 (either term, 3-0-1). A continuation of CHINA 201. Prerequisite: CHINA 201. Note: Not open to students with credit in CHINA 304. Formerly CHINA 304. CHINA 200 and 202 may not both be taken for credit.

CHINA 211 Modern Standard Chinese for Those Proficient in Other Dialects I
★3 (first term, 3-0-1). This course is designed for speakers proficient in one of the regional dialects of Chinese to gain fluency in the standard language. Prerequisite: Proficiency in any of the regional dialects of China. Note: Open only to students with a background in Chinese language.

CHINA 212 Modern Standard Chinese for Those Proficient in Other Dialects II
★3 (second term, 3-0-1). Continuation of CHINA 211. Prerequisite: CHINA 211. Note: Open only to students with a background in Chinese language.

CHINA 225 Calligraphy I
★3 (either term, 3-0-0). Introduction to the history of Chinese calligraphy and related cultural aspects. Emphasis on techniques of brush writing. Note: CHINA 225 and JAPAN 225 may not both be taken for credit. Lectures in English. No prerequisite. Note: This course will not fulfill the Language other than English requirement of the BA degree.

CHINA 226 Calligraphy II
★3 (either term, 3-0-0). A continuation of CHINA 225. Prerequisite: CHINA 225. Note: CHINA 226 and JAPAN 226 may not both be taken for credit. Note: This course will not fulfill the Language other than English requirement of the BA degree.

CHINA 230 Heritage of China: Texts and Context
★3 (first term, 3-0-0). An introductory level course designed to acquaint students with themes and ideas revealed in literature that are central to the Chinese perspective. Note: This course will not fulfill the Language other than English requirement of the BA degree.

CHINA 250 The Chinese Language in Its Cultural Setting I
★6 (0-15L-0). (Intersession abroad only). Oral immersion course to be studied abroad. Designed for improvement of oral/aural skills at senior elementary level. Prerequisite: CHINA 100 and 200 or consent of Department.

CHINA 301 Intermediate Written Chinese I
★3 (first term, 3-0-0). Emphasis on reading and writing skills. Designed to be taken in conjunction with CHINA 305. Prerequisite: CHINA 200 or 202.

CHINA 302 Intermediate Written Chinese II
★3 (second term, 3-0-0). A continuation of CHINA 301. Prerequisite: CHINA 301.

CHINA 305 Intermediate Spoken Chinese I
★3 (first term, 4-0-0). Intermediate level conversation and composition with emphasis on oral/aural skills. Designed to be taken in conjunction with CHINA 301. Prerequisite: CHINA 200 or 202.

CHINA 306 Intermediate Spoken Chinese II
★3 (second term, 4-0-0). A continuation of CHINA 305. Prerequisite: CHINA 305.

CHINA 311 Modern Standard Chinese for Those Proficient in Other Dialects III
★3 (first term, 3-0-0). This is an advanced course for those proficient in one of the regional dialects. Prerequisite: CHINA 212 or consent of Department. Note: Open only to students with a background in Chinese language.

CHINA 312 Modern Standard Chinese for Those Proficient in Other Dialects IV
★3 (second term, 3-0-0). A continuation of CHINA 311. Prerequisite: CHINA 311. Note: Open only to students with a background in Chinese language.

CHINA 323 Early Literature in English Translation I
★3 (either term, 3-0-0). Chinese literature from earliest times through the Tang dynasty. Lectures in English. No prerequisite. Note: This course will not fulfill the Language other than English requirement of the BA degree.

CHINA 324 Early Literature in English Translation II
★3 (either term, 3-0-0). Chinese literature from the Song through the Qing Dynasties. Lectures in English. No prerequisite. Note: This course will not fulfill the Language other than English requirement of the BA degree.

CHINA 327 Modern Literature in English Translation I
★3 (either term, 3-0-0). Chinese literature from 1912 to 1949. Lectures in English. No prerequisite. Note: This course will not fulfill the Language other than English requirement of the BA degree.

CHINA 328 Modern Literature in English Translation II
★3 (either term, 3-0-0). Chinese literature from 1949 through the present. Lectures in English. No prerequisite. Note: This course will not fulfill the Language other than English requirement of the BA degreee.

CHINA 350 The Chinese Language in its Cultural Setting II
★6 (0-15L-0). (Intersession abroad only). Oral immersion course to be studied abroad. Designed for improvement of oral/aural skills at senior intermediate level. Prerequisite: CHINA 302 and 306, or consent of Department.

CHINA 401 Advanced Written Chinese I
★3 (either term, 3-0-0). Equal emphasis on reading and writing skills. Prerequisite: CHINA 302 and/or 306.

CHINA 402 Advanced Written Chinese II
★3 (either term, 3-0-0). A continuation of CHINA 401. Prerequisite: CHINA 401.

CHINA 405 Advanced Spoken Chinese I
★3 (first term, 3-0-0). Emphasis on advanced oral/aural abilities including professional development language skills. Designed to be taken in conjunction with CHINA 401. Prerequisite: CHINA 302 and/or 306.

CHINA 406 Advanced Spoken Chinese II
★3 (second term, 3-0-0). A continuation of CHINA 405. Prerequisite: CHINA 405.

CHINA 409 Newspaper and Media Sources I
★3 (first term, 3-0-0). An introduction to reading Chinese newspapers and other public media sources. Prerequisite: CHINA 402 or consent of Department.

CHINA 410 Newspaper and Media Sources II
★3 (second term, 3-0-0). A continuation of CHINA 409. Prerequisite: CHINA 409.

CHINA 417 Advanced Readings in Modern Chinese I
★3 (first term, 3-0-0). Guided readings from major writers since 1919. Prerequisite: CHINA 402.

CHINA 418 Advanced Readings in Modern Chinese II
★3 (second term, 3-0-0). A continuation of CHINA 417. Prerequisite: CHINA 417.

CHINA 423 Survey of Classical Chinese Poetry
★3 (either term, 3-0-0). Readings in classical Chinese poetry with emphasis on tradition, form and technique. Readings and lectures in English. Prerequisite: Any 300-level literature course.

CHINA 424 Survey of Classical Chinese Prose
★3 (either term, 3-0-0). Reading in classical Chinese prose with emphasis on tradition, form and technique. Readings and lectures in English. Prerequisite: Any 300-level Chinese literature course.

CHINA 427 Survey of Classical Chinese Fiction I
★3 (first term, 3-0-0). Readings in classical Chinese fiction with emphasis on theme and technique. Readings and lectures in English. Prerequisite: Any 300-level literature course.

CHINA 428 Survey of Classical Chinese Fiction II
★3 (second term, 3-0-0). A continuation of CHINA 427. Prerequisite: CHINA 427.

CHINA 429 Translation: Chinese to English I
★3 (either term, 3-0-0). Theory and practice of translation. Prerequisite: CHINA 402 and/or 406 or consent of Department.

CHINA 430 Translation: Chinese to English II
★3 (either term, 3-0-0). A continuation of CHINA 429. Prerequisite: CHINA 429.

CHINA 431 Translation: English to Chinese I
★3 (either term, 3-0-0). Theory and practice of translation into Chinese. Prerequisite: CHINA 402 or consent of Department.

CHINA 432 Translation: English to Chinese II
★3 (either term, 3-0-0). Continuation of CHINA 431. Prerequisite: CHINA 431.

CHINA 433 History of the Chinese Language
★3 (either term, 3-0-0). Orgin and development of the Chinese language. Lectures in English. Prerequisite: CHINA 100 or 102.

CHINA 434 Chinese Dialects
★3 (either term, 3-0-0). A study of the chronological divergence of Chinese dialects together with an

introduction to the important phonological and syntactic differences among the major dialects. Lectures in English. Prerequisite: CHINA 100 or 102.

CHINA 435 Chinese Phonetics
★3 (either term, 3-0-0). A scientific study of the sound system of modern standard Chinese combined with practice in phonetic discrimination and transcription. Lectures in English. Prerequisite: CHINA 100 or 102.

CHINA 436 Chinese Syntax
★3 (either term, 3-0-0). A study of the morphological and syntactic systems of Chinese. Lectures in English. Prerequisite: CHINA 100 or 102.

CHINA 441 Classical Chinese I
★3 (either term, 3-0-0). An introduction to the syntactic, lexical and stylistic forms used in classical Chinese. Prerequisite: CHINA 302.

CHINA 442 Classical Chinese II
★3 (either term, 3-0-0). A continuation of CHINA 441. Prerequisite: CHINA 441.

CHINA 451 Topics in Early Fiction
★3 (either term, 3-0-0). A critical analysis of form and themes in pre-1911 fiction. Prerequisite: Consent of Department.

CHINA 452 Topics in Modern Literature
★3 (either term, 3-0-0). A critical study of topics chosen from contemporary prose, poetry, and drama. Prerequisite: Consent of Department.

CHINA 453 Topics in Early Drama
★3 (either term, 3-0-0). A critical study of some major plays from the Yuan, Ming and Ch'ing periods. Prerequisite: Consent of Department.

CHINA 454 Topics in Early Poetry
★3 (either term, 3-0-0). A critical study of form and meaning in classical Chinese poetry. Prerequisite: Consent of Department.

CHINA 481 Supervised Reading in Chinese I
★3 (either term, 3-0-0). Accelerated reading course primarily for senior or graduate students in special areas of need or interest. Prerequisite: Written consent of Department.

CHINA 482 Supervised Reading in Chinese II
★3 (either term, 3-0-0). Further accelerated reading for senior and graduate students. Prerequisite: Written consent of Department.

CHINA 498 Methods of Research I
★3 (either term, 3-0-0). An introduction to the methods and techniques of scholarship together with their theoretical foundations. Includes bibliographies, style sheets, and practical methods of research in the field. Prerequisite: CHINA 402 or consent of Department.

CHINA 499 Methods of Research II
★3 (either term, 3-0-0). A continuation of CHINA 498. Prerequisite: CHINA 498.

CHINA 501 Major Genres and Literary Movements I
★3 (either term, 3-0-0). Evolution of major genres and literary movements from a historical perspective. Prerequisite: Consent of Department.

CHINA 502 Major Genres and Literary Movements II
★3 (either term, 3-0-0). A continuation of CHINA 501. Prerequisite: CHINA 501.

CHINA 503 The Chinese Perspective in Literary Criticism I
★3 (either term, 3-0-0). A survey of the major developments in Chinese literary criticism. Prerequisite: Consent of Department.

CHINA 504 The Chinese Perspective in Literary Criticism II
★3 (either term, 3-0-0). A continuation of CHINA 503. Prerequisite: CHINA 503.

CHINA 537 Topics in Chinese Linguistics I
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

CHINA 538 Topics in Chinese Linguistics II
★3 (either term, 3-0-0). Prerequisite: CHINA 537.

CHINA 541 Intermediate Classical Chinese I
★3 (first term, 3-0-0). Advanced syntax of classical Chinese and readings from classical texts. Prerequisite: CHINA 442 or consent of Department.

CHINA 542 Classical Chinese II
★3 (second term, 3-0-0). A continuation of CHINA 541. Prerequisite: CHINA 541.

CHINA 551 Seminar in Classical Fiction
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

CHINA 552 Seminar in Modern Literature
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

CHINA 553 Seminar in Early Drama
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

CHINA 554 Seminar in Early Poetry
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

CHINA 581 Supervised Study in the Chinese Language I
★3 (either term, 3-0-0). Prerequisite: Written consent of Department.

CHINA 582 Supervised Study in the Chinese Language II
★3 (either term, 3-0-0). Prerequisite: Written consent of Department.

44.9 Christian Theology

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
CHRTC 266	CHRTC 166	CHRTC 366	CHRTC 266
CHRTC 272	CHRTC 172	CHRTC 370	CHRTC 270
CHRTC 364	CHRTC 264		

44.9.1 St Joseph's College from within the Roman Catholic Tradition

The following courses are offered by St Joseph's College and are accepted for credit in programs offered in the Faculty of Arts.

CHRTC 166 The Beginning of the Church
★3 (either term, 3-0-0). A study of the early Christian Church, with special attention to the Acts of the Apostles, the earliest proclamation of the Christian faith, the formation of the Gospels, Paul's teaching on the Christian life.

CHRTC 172 Introduction to Catholic Moral Thought
★3 (either term, 3-0-0). The role of reason, Sacred Scripture, tradition, the Church, and individual freedom and responsibility in the formation and exercise of conscience.

CHRTC 264 Dimensions of Christian Faith
★3 (either term, 3-0-0). A study of Christian faith as a human and religious problem. Biblical views on faith will be examined as well as diverse interpretations of faith within the Christian tradition. Particular problems to be studied: the relationship between faith experiences and human experiences as such; the relationship between authority and freedom; individual faith and the faith of a community; faith and culture; the possibility of Christian faith today.

CHRTC 266 New Testament Themes
★3 (either term, 3-0-0). A study of the meanings attributed to Jesus Christ in the New Testament. The problem of the formation of the Gospels will be examined and particular attention given to the images of Jesus Christ presented by the principal authors of the New Testament. Efforts to relate the Biblical Christ to contemporary culture will also be studied.

CHRTC 270 Contemporary Theology of the Catholic Church
★3 (either term, 3-0-0). What does it mean to be a Catholic Christian in the modern world? What is expected of the Christian? What is the Christian? What is the Christian to become? A study of contemporary ecclesiological themes, in light of the needs of modern men and women and modern youth.

CHRTC 292 Spirituality for Today's Christian
★3 (either term, 3-0-0). Theological understanding of the role of prayer, leisure, and work in developing a Christian lifestyle.

CHRTC 342 The Early Papacy
★3 (either term, 3-0-0). An historical study of the establishment of the Papacy and its development until the formation of the Papal States in the eighth century.

CHRTC 343 The Medieval Papacy
★3 (either term, 3-0-0). The Popes and the Papal institution from the time of Charlemagne till the Council of Trent in the sixteenth century.

CHRTC 344 Catholicism: Late Middle Ages to Modern Times
★3 (either term, 3-0-0). The history of the Church, its beliefs and theology, its struggles with reformers and nation states, from the days of schism to ecumenism.

CHRTC 346 The Churches in Europe in the Nineteenth Century
★3 (either term, 3-0-0). Major Christian denominations in Europe from the French Revolution to 1900. Their struggle with revolution, secularism, liberalism, nationalism, and scientism, the Papal States, problems of biblical authority, the crisis of faith, missionary expansion, and spiritual phenomena. Reference is made to Anglican, Catholic, and Protestant Churches.

CHRTC 347 The Churches in Europe in the Twentieth Century
★3 (either term, 3-0-0). The Churches, socialism, semitism, the dilemma of war; the rise of totalitar fascism, nazism, and communism; zionism a holocaust; post-war theologies of politics and plu Emphasis on Catholic, Lutheran and Orthodox chi

CHRTC 349 Christianity and Social Justice in Canada
★3 (either term, 3-0-0). Examines particular probl Canada and in the world and the alternative so offered by contemporary thinkers from a Christia of view. This course includes Christian social th Christian pacifism, theology of politics.

CHRTC 351 The Christian Meaning of Sex and Marriage
★3 (either term, 3-0-0). The sexual revolution relevance for sexual ethics; premarital sex; ma breakdown and divorce; sex as a human reality; Ch meaning of marriage.

CHRTC 352 Medical-Moral Problems
★3 (either term, 3-0-0). Christian reasons for v life; examination from a Christian perspective of nasia, abortion, genetic research, sterilization, reproc technologies, and medical experimentation; rig patients.

CHRTC 355 The Gospel According to Mark
★3 (either term, 3-0-0). A study of the first v gospel, its origin, structure and theology.

CHRTC 356 The Gospel According to Matthew
★3 (either term, 3-0-0). A study of the gospel of Ma in the light of its sources, purpose and theology.

CHRTC 357 Luke-Acts
★3 (either term, 3-0-0). A study of Luke's two vol with references to their sources, Luke's view of h as historian, and his understanding of salvation-hi

CHRTC 362 The Hope of Israel
★3 (either term, 3-0-0). A study of the Hebrew Bibl Testament) literature as Prolegomena to Christian the

CHRTC 367 Salvation History in Paul
★3 (either term, 3-0-0). The significance of the Epis the Romans in the thought of Paul and the history Christian Church.

CHRTC 371 The Sacraments
★3 (first term, 3-0-0). The role of the sacrament Christian life and worship. The sacraments as myst of salvation and as community celebrations. Relation between the various sacraments. Historical develop and current understandings of specific sacramental

CHRTC 372 The Eucharist in Christian Worship
★3 (either term, 3-0-0). A theological study o development of Catholic liturgy from the Jewish fou tion to the present day. A study of the Eucharist bo sacrifice and as sacrament. Contemporary theolo developments in the liturgy both in theory and prac

CHRTC 374 Great Minds of Early Christianity
★3 (either term, 3-0-0). Developments in Christian thc during the period of the Apostolic Fathers. Formul of the creeds. Early encounters of Christianity with philosophical and religious thought of the ancient w

CHRTC 376 The Evolution of Christian Thought
★3 (either term, 3-0-0). An historical survey of evolution of Catholic thought with emphasis on readings of some of the great Christian thinkers.

CHRTC 379 Theology and Liturgy of Eastern Christian Churches in Communion with Rome
★3 (either term, 3-0-0). An introduction to the theo and liturgy of Eastern Christianity in communion Rome with special attention to the Ukrainian Churc

CHRTC 380 Catechetics I
★3 (either term, 3-0-0). Problems which catech faces today, with emphasis on the analysis of b religious experience in the meeting of God and hu beings in Scripture, in Christ, liturgy, and doctrine.

CHRTC 381 Catechetics II
★3 (either term, 3-0-0). Brief survey of the history catechetics and of contemporary schools of catechet An analysis of religious experience and contempo secularization, and of religious experience and the ness of the individual in the moral life.

CHRTC 408 Vatican Council II
★3 (either term, 3-0-0). An examination of the gene and drafting of the basic documents discussed by Council, 1962-65; subsequent changes in theolog and pastoral perspectives. Prerequisite: Consent of College.

CHRTC 410 Modern Catholic Theology
★3 (either term, 3-0-0). An exploration of the efforts one or several recent or contemporary Roman Cath theologians to express Christian doctrine in ways int gible to the modern world. Prerequisite: Two previc courses in Christian theology or permission of Colleg

RTC 411 Topics in Christian Unity
(either term, 3-0-0). An examination of the Protes-Catholic-Orthodox dialogues in the twentieth century the efforts to recover the unity-within-diversity of istianity. Prerequisite: Consent of the College.

RTC 412 Toward a Theology of Peace
(second term, 3-0-0). A survey of Christian teaching war and peace, including a study of the moral issues olved in wars and armed revolutions. Critical evalua- of "just war" theories and international rules of fare as well as the moral argument for and against ifism and conscientious objection. Prerequisite: CHRTC or consent of the College.

RTC 420 Contemporary Roman Catholic ristologies
(either term, 3-0-0). An intensive examination of e or more contemporary Roman Catholic Christologies. course will attempt to introduce questions asked ut Jesus Christ today and how current Roman Catholic kers address them. Prerequisite: Permission of the lege. RELIG 350 would be desirable.

RTC 430 The Unity and Diversity of the New stament
(either term, 3-0-0). Examination of the question of ether a biblical theology is possible in the light of the erved diversity of New Testament writings. Prerequisite: o courses in Scripture.

RTC 449 Theology and Communication
(first term, 3-0-0). A Christian theological critique of presuppositions in communications policies and the plication of media technology in both the developed d developing nations. The course includes a Christian ical analysis of the impact of the information revolu- with particular consideration given to information tems and the form and content of print and electronic dia. Prerequisite: CHRTC 349 or consent of the llege.

RTC 450 Directed Readings in Catholic Theology
(either term, 3-0-0). An intensive directed readings rse on a topic selected by the student in consultation h one of the faculty. A major term paper is required. erequisite: One course in theology and permission of College.

RTC 451 The Book of Revelation
(either term, 3-0-0). The origins of apocalyptic literature; aracteristics of this literary genre; the Apocalypse of n as a Christian re-interpretation of the Hebrew Bible d Testament) and a message of hope. Prerequisite: o courses in Scripture.

RTC 458 The Word Incarnate
(either term, 3-0-0). The portrait of Jesus in the urth Gospel as compared to the portrait of Jesus in Synoptics. Prerequisite: One course in the Synoptics, RELIG 351, or one of CHRTC 355, 356, or 357.

For philosophy courses offered by St Joseph's llege, see §44.31.3. For other information see §246.1.2 this Calendar.

4.9.2 St Stephen's College from within the Liberal Protestant Tradition

The following courses are offered by St Stephen's llege and are accepted for credit as options in pro- ams offered in the Faculty of Arts.

HRTP 301 Hebrew Scriptures
3 (first term, 3-0-0). Background, authorship, sources, erary qualities and general teaching of the various oks of the Hebrew Scriptures (Old Testament), and e process of the Old Testament formation. Note: Not en to students with credit in CHRTP 301 Old Testament erature.

HRTP 305 Christian Scriptures
3 (second term, 3-0-0). Jewish and Greek environment the New Testament; the authorship and content of its rious books, and the process of New Testament rmation. Note: Not open to students with credit in HRTP 305 New Testament Literature.

HRTP 312 The Question of Faith
3 (first term, 0-3s-0). An introduction to a methodology r a disciplined examination of issues in contemporary ligious experience with reference to selected readings om leading thinkers.

HRTP 313 Topics in Applied Christian Ethics
3 (either term, 3-0-0). Exploration and analysis of lected issues in social ethics within the context of eological reflection and commitment. Particular atten- on will be paid to the development of debate within the otestant tradition.

HRTP 314 Topics in Women and Religion
3 (either term, 3-0-0). Women's relation to and place in e dominant religious tradition of the West, Christianity. Attention will be paid to women's attempts to critique and transform received tradition and/or to develop alternative forms of religious life.

CHRTP 315 Topics in Religion and Literature
★3 (either term, 3-0-0). Religious systems mediate their values and concerns in a variety of ways (liturgy, mythos, theology, etc.). This course investigates major Christian concerns such as doubt, faith, suffering, hope, forgiveness and redemption as mediated through narrative. In addition to exploring deep questions of religious meaning, attention will also be paid to the transmission and transformation of values, and the use of literature as a religious vehicle for social change.

CHRTP 316 Issues in Contemporary Sexuality and Spirituality
★3 (second term, 2-1s-0). A study of selected beliefs concerning sexuality and spirituality in the light of contemporary theories and debates.

CHRTP 317 Radical Theology
★3 (second term, 3-0-0). A survey course exploring recent developments in radical Christian Theology and their implications for traditional beliefs, symbols, and the integration of faith and practice.

CHRTP 318 Feminist Theology
★3 (first term, 1-2s-0). An examination of feminist criticisms of selected doctrines and practices.

CHRTP 418 The Makers of Modern Theology
★3 (either term, 0-3s-0). A study of the major works of a key theologian of the nineteenth or twentieth century.

44.10 Classics

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
CLASS 202	CLASS 102	CLASS 241	CLASS 141
CLASS 210	CLASS 110	CLASS 260	CLASS 160

Note: None of the courses under this heading will fulfill the Language other than English requirement of the BA degree.

Note: All 200- and 300-level courses under this heading are survey courses designed primarily for the non-specialist and may be taken by students with no knowledge of Greek or Latin.
For additional related courses see §44.20 and §44.26.

44.10.1 Junior Courses

CLASS 102 Greek and Roman Mythology
★3 (either term, 3-0-0). A survey of classical mythology with readings in translation from various ancient authors as well as from modern scholarly works.

CLASS 110 Early World History I
★3 (first term, 3-0-0). World history from the beginning of written records down to the end of the sixth century A.D. The course covers the ancient history of the Mediterranean world, with particular emphasis on Egypt, Greece and Rome and compares developments in civilization in these areas with those in Persia, India, China and Japan. Note: Students choosing CLASS 110 for partial fulfillment of the Humanities Group A or Group B requirement must also take HIST 110.

CLASS 141 Ancient Science and Technology
★3 (either term, 3-0-0). A survey of ancient science and technology in the Middle Eastern, Greek, and Roman civilizations.

CLASS 160 Greek and Latin Etymology
★3 (either term, 3-0-0). A study of Greek and Latin words commonly used in English: how these words are built, and how they gain and change in meanings.

44.10.2 Senior Courses

Note: The Classics Department does not permit first-year students, regardless of their Faculty, to take its 300-level courses. It permits only third- and fourth-year students, regardless of their Faculty, to take its 400-level courses.

CLASS 201 Literature of Greece and Rome
★3 (either term, 3-0-0). An introductory survey in English translation of Greek and Latin literature in its social, artistic, and cultural background. A limited number of major works, representing the most important genres, will be studied. May not be taken concurrently with or subsequent to CLASS 359/360.

CLASS 250 The Greek World
★3 (either term, 3-0-0). Greek life and society illustrated by archaeological discoveries; the Bronze Age, the city, temples, Athens, Sparta, Greek art and architecture, trade, and warfare. Slides, films, and other materials.

CLASS 251 The Roman World
★3 (either term, 3-0-0). A study of Roman society illustrated by archaeological discoveries; city life, housing, town planning, games, trade, shipping, and the army. Slides, films, coins, other materials.

CLASS 357 Classical Myth and Religion
★3 (either term, 3-0-0). The background and origin of classical mythology and religion; Mycenean and Near Eastern sources; religious festivals and usages; modern scholarship. Prerequisite: CLASS 102.

CLASS 359 Classical Literature in Translation I
★3 (first term, 3-0-0). An historical and critical study of representative masterpieces of Greek and Latin literature.

CLASS 360 Classical Literature in Translation II
★3 (second term, 3-0-0). An historical and critical study of representative masterpieces of Greek and Latin literature. (A continuation of CLASS 359.)

CLASS 361 Studies on Women in Classical Antiquity
★3 (either term, 3-0-0). Topics on women in the Ancient World, as approached through the study of literature and/or history, law, religion and art. Details of the topics to be offered in any given year may be obtained from the department.

CLASS 363 History of Ancient Greece I
★3 (first term, 3-0-0). The Hellenic world from its beginnings in the Bronze Age until the Persian Wars, with special attention to the organization of the city state, Sparta, and the rise of Athenian democracy.

CLASS 364 History of Ancient Greece II
★3 (second term, 3-0-0). The Hellenic world from the Persian Wars, through its greatest period and the Peloponnesian War, to the death of Alexander the Great.

CLASS 367 Archaic and Classical Greek Art
★3 (first term, 3-0-0). The origin and development of Greek Art and Architecture and its relation to, and reflection of, the cultural and political history of the times. Prerequisite: CLASS 250, 251, or any 300-level CLASS course.

CLASS 368 Hellenistic and Roman Art
★3 (second term, 3-0-0). The development and role of Art and Architecture in the Hellenistic kingdoms and the Roman Republic; the evolution of Roman Imperial Art. Prerequisite: CLASS 250, 251, or any 300-level CLASS course.

CLASS 369 Early Civilizations I
★3 (first term, 3-0-0). A survey of the beginnings and development of civilization in the Near East, including Sumer, Babylon, Assyria, and the Hebrews.

CLASS 370 Early Civilizations II
★3 (second term, 3-0-0). The development of civilization in the western half of the Fertile Crescent, including the rise and decline of the Egyptian, Hittite, and Phoenician cultures.

CLASS 373 History of the Roman Republic
★6 (3-0-0). The Roman Republic from its beginnings down to 44 BC with special attention to social, economic and constitutional developments, imperial expansion in the Mediterranean, and the careers of Marius, Sulla, Pompey, and Julius Caesar. Note: Not open to students with credit in CLASS 365 and/or 366.

CLASS 374 History of the Roman Empire
★6 (3-0-0). The Roman Empire from Augustus to the death of Constantine, with particular attention to developments in government, law and civilization. Note: Not open to students with credit in CLASS 371 and/or 372.

CLASS 379 Greek and Roman Epic
★3 (either term, 0-3s-0). A study in English translation of representative works of oral and literary epic from Homer to Lucan.

CLASS 380 Greek and Roman Tragedy
★3 (either term, 0-3s-0). A study of classical tragedy from Aeschylus to Seneca in English translation.

CLASS 459 Roman Archaeology and Civilization
★6 (5-0-15). A study of the old city of Rome, with lecturing trips to Etruria, Ostia, Terracina, Palestrina, Tivoli, Pompeii, Herculaneum, Cumae, and the Greek temples of Paestum. Designed to provide a richer understanding of Latin literature and Roman history and an introduction to advanced studies in Latin literature and Roman history and archaeology. Prerequisite: One university level course in History, Latin or Classics and consent of Department. Note: This course is given in Rome during Intersession only.

44.10.3 Advanced Courses

The following courses are designed for fourth-year, Honors and graduate students. The precise topics covered in any given course may vary from year to year.

Some account, therefore, may be taken of the particular interests of students within the framework of the course. Normally, students who take these courses are expected to have at least one senior course in ancient history or literature; if they do not, they must obtain the consent of Department to their registration, and the Department will consider their special needs. Note: Details of the topics to be offered in any given year may be obtained from the Department.

CLASS 460 Topics in Ancient Near Eastern History
★3 (either term, 0-3s-0). Prerequisite: Any one of CLASS 369, 370, or consent of Department.

CLASS 461 Topics in Roman Imperial History I
★3 (first term, 0-3s-0). Prerequisite: Any one of CLASS 365, 366, 371, 372, or consent of Department.

CLASS 462 Topics in Roman Imperial History II
★3 (second term, 0-3s-0). Prerequisite: Any one of CLASS 365, 366, 371, 372, or consent of Department.

CLASS 463 Topics in Roman Republican History I
★3 (first term, 0-3s-0). Prerequisite: Any one of CLASS 365, 366, 371, 372, or consent of Department.

CLASS 464 Topics in Roman Republican History II
★3 (second term, 0-3s-0). Prerequisite: Any one of CLASS 365, 366, 371, 372, or consent of Department.

CLASS 465 Topics in Hellenistic History I
★3 (first term, 0-3s-0). Prerequisite: Any one of CLASS 363, 364, or consent of Department.

CLASS 466 Topics in Hellenistic History II
★3 (second term, 0-3s-0). Prerequisite: Any one of CLASS 363, 364, or consent of Department.

CLASS 467 Topics in Early Greek History I
★3 (first term, 0-3s-0). Prerequisite: Any one of CLASS 363, 364, or consent of Department.

CLASS 469 Topics in Classical Greek History I
★3 (first term, 0-3s-0). Prerequisite: Any one of CLASS 363, 364, or consent of Department.

CLASS 470 Topics in Classical Greek History II
★3 (second term, 0-3s-0). Prerequisite: Any one of CLASS 363, 364, or consent of Department.

CLASS 471 Regional Studies in Ancient History I
★3 (first term, 0-3s-0).

CLASS 472 Regional Studies in Ancient History II
★3 (second term, 0-3s-0).

CLASS 473 Topics in Greek and Italian Archaeology I
★3 (first term, 0-3s-0). Prerequisite: Any one of CLASS 363, 364, 367, or consent of Department.

CLASS 474 Topics in the Archaeology of Italy and the Roman Empire
★3 (either term, 0-3s-0). Prerequisite: Any one of CLASS 365, 366, 368, 371, 372, or consent of Department.

CLASS 475 Practical Methods in Classical Archaeology
★3 (either term, 0-10L-0) or ★6 (0-10L-0). The techniques of excavation and recording in Classical Archaeology. Prerequisite: Consent of Department. Note: Offered only for field work in the archaeology of the Greek and Roman world and restricted to those participating in an excavation sponsored by the Department.

CLASS 476 Advanced Field Techniques in Classical Archaeology
★3 (either term, 0-10L-0) or ★6 (0-10L-0). Advanced field application of Classical archaeological theory. Prerequisite: CLASS 475 or equivalent and consent of Department. Note: Offered in Summer only for field work in the archaeology of the Greek and Roman world and restricted to those participating in an excavation sponsored by the Department.

CLASS 477 Topics in Greek Art
★3 (first term, 0-3s-0). In-depth study of aspects of Greek art. Prerequisite: CLASS 367 or consent of instructor.

CLASS 478 Topics in Roman Art
★3 (second term, 0-3s-0). In-depth study of aspects of Roman art. Prerequisite: CLASS 368 or consent of Department.

CLASS 481 Greek and Latin Epic I
★3 (first term, 0-3s-0). Prerequisite: Any one of the CLASS 359, 360, 379, or consent of Department.

CLASS 483 Greek and Roman Tragedy I
★3 (first term, 0-3s-0). Prerequisite: Any one of the CLASS 359, 360, 380, or consent of Department.

CLASS 484 Greek and Roman Tragedy II
★3 (second term, 0-3s-0). Prerequisite: Any one of the CLASS 359, 360, 380, or consent of Department.

CLASS 497 Topics on Women in Classical Antiquity
★3 (either term, 0-3s-0). Prerequisite: CLASS 361 or any 300-level cross-listed course in Women's Studies, or consent of Department.

CLASS 498 Individual Study of Literary Problems
★3 (either term, 0-3s-0). Prerequisite: Any one of CLASS 359, 360, 361, 379, 380, or consent of Department.

CLASS 499 Individual Study of Historical Problems
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

CLASS 500 Fourth Year Honors Tutorial
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

CLASS 510 Readings in Classical Archaeology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

CLASS 511 Topics in the Iron Age in Italy
★3 (either term, 0-3s-0). The native cultures of the Italian peninsula from the beginning of the first millennium B.C. until the end of the Samnitic wars. Prerequisite: Consent of Department.

CLASS 512 Topics in the Archaeology of Magna Graecia
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

CLASS 513 Topics in the Archaeology of Roman Italy
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

CLASS 514 Topics in the Archaeology of Egypt and the Ancient Near East
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

CLASS 515 Topics in the Archaeology of Greece
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

CLASS 516 Topics in the Archaeology of the Roman Provinces
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

CLASS 520 Readings in Historical Sources
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

CLASS 522 Studies in Ancient History
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

CLASS 525 Topics in Greek and Latin Literature
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

44.10.4 Graduate Courses

Note: A list of Graduate Courses in Classics can be found in the Graduate Studies and Research section of the Calendar.

44.10.5 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department and/or the University timetable.

CLASS 230 Introduction to the Ancient Near East and Greece
★3 (either term, 3-0-0). An introductory course in the history of the Ancient Near East and Greece from the Neolithic Age to the fourth century AD. Note: May not be taken concurrently with or subsequent to CLASS 363/364.

CLASS 231 Introduction to Rome and the West
★3 (either term, 3-0-0). An introductory course in the history of Rome and the Western Mediterranean to the collapse of the Roman Empire. Note: May not be taken concurrently with or subsequent to CLASS 373 and 374.

CLASS 375 History of Medicine in the Ancient World
★3 (either term, 3-0-0). A survey of medical science from Prehistoric times through Egyptian, Mesopotamian, Greek, and Roman times to the end of the Roman Empire.

CLASS 468 Topics in Early Greek History II
★3 (second term, 0-3s-0). Prerequisite: Any one of CLASS 363, 364, or consent of Department.

CLASS 482 Greek and Latin Epic II
★3 (second term, 0-3s-0). Prerequisite: Any one of CLASS 359, 360, 379, or consent of Department.

CLASS 485 Greek and Roman Comedy I
★3 (first term, 0-3s-0). Prerequisite: Any one of CLASS 359, 360, or consent of Department.

CLASS 486 Greek and Roman Comedy II
★3 (second term, 0-3s-0). Prerequisite: Any one of CLASS 359, 360, or consent of Department.

44.11 Comparative Literatur

The following table lists renumbered courses effe 1990-91:

Old	New	Old	New
C LIT 201	C LIT 100	C LIT 271	C LIT 171
C LIT 202	C LIT 100	C LIT 272	C LIT 172

The following table lists renumbered courses effe 1991-92:

Old	New	Old	New
C LIT 301	C LIT 201	C LIT 346	C LIT 246
C LIT 302	C LIT 202	C LIT 350	C LIT 450
C LIT 344	C LIT 244	C LIT 366	C LIT 266
C LIT 345	C LIT 245		

44.11.1 Junior Courses

C LIT 100 World Literature
★6 (3-0-0). An introduction to major works of the wo literary heritage, presented in their historical, social, cultural contexts. This course is designed to acq students with literature as a mediation of human ex ence and to provide a foundation for senior and adva courses in literature, as well as background for stu in the humanities and social sciences. Note: Not t taken by students with credit in C LIT 201/202.

C LIT 171 Introduction to the Comparative Study the Canadian Literatures I
★3 (first term, 3-0-0). An introductory course desi to compare the basic texts of English-Canadian French-Canadian literatures. Note: This course is intended to replace C LIT 100 as a prerequisite senior courses.

C LIT 172 Introduction to the Comparative Study the Canadian Literatures II
★3 (second term, 3-0-0). An introductory course signed to compare the basic texts of English-Cana and French-Canadian literatures. Prerequisite: C 171. Note: This course is not intended to replace C 100 as a prerequisite for senior courses.

44.11.2 Senior Courses

C LIT 201 Studies in World Literature I
★3 (either term, 3-0-0). Major works of world literatu English translations representing the more impor periods and genres from antiquity to the Renaissa Prerequisite: ENGL 101 or equivalent. Note: Not t taken by students with credit in C LIT 100.

C LIT 202 Studies in World Literature II
★3 (either term, 3-0-0). Major works of world literatur English translations representing the more impor periods and genres since the Renaissance. Prere site: ENGL 101 or equivalent. Note: Not to be taker students with credit in C LIT 100.

C LIT 244 The Forms of Narrative
★3 (first term, 3-0-0). A systematic survey of the m components of narrative with the major emphasis pla on Continental theories. Prerequisite: C LIT 100, ENGL 101, or equivalent.

C LIT 245 The Forms of Poetry
★3 (second term, 3-0-0). The elements and levels of poetic text with the major emphasis placed on Contin tal theories. Prerequisite: C LIT 100, ENGL 101, equivalent.

C LIT 246 The Forms of Drama
★3 (either term, 3-0-0). A systematic survey of the ba components of dramatic structure with emphasis European literatures and theories. Prerequisite: C 100, or ENGL 101 or equivalent.

C LIT 266 Women in World Literature
★3 (either term, 3-0-0). An examination of major wo of world literature (in English translation), by and ab women, from antiquity to the present. Prerequis C LIT 100, or ENGL 101, or equivalent.

C LIT 320 Introduction to Medieval Literature
★3 (either term, 3-0-0). This course is designed introduce students to the major kinds of medieval lite ture (epic, romance, lyric, and drama) within a Europe context. Prerequisite: C LIT 101, or ENGL 101 equivalent. Note: Not to be taken by students with cre in C LIT 321.

C LIT 330 Introduction to Renaissance and Baroq Literature
★3 (either term, 3-0-0). A survey, in English translati of some of the major works of fifteenth, sixteenth a seventeenth century European civilizations. Prerec site: C LIT 101, or ENGL 101 or equivalent. Note: Not be taken by students with credit in C LIT 321.

T 341 Introduction to Oral Literature
(either term, 3-0-0). An introduction to the main
s of international oral literature in the context of oral
ties and their transition towards written culture, as
as to the relationship between oral and written
ture. Prerequisite: C LIT 100, or ENGL 101, or
valent.

T 342 Introduction to Science Fiction
(either term, 3-0-0). A comparative survey of major
s and tendencies in science fiction, as an international
nomenon, combined with a theoretical examination
e genre. Prerequisite: C LIT 100, or ENGL 101, or
valent or consent of Department.

D 346 Introduction to Eastern Europe and the et Union
3-0-0). An interdisciplinary introduction to the study
e socialist system with special reference to the
et Union and East Europe. (Offered jointly by the
artments of Slavic and East European Studies,
parative Literature, Economics, Geography, History,
ical Science, Sociology.) [Slavic and East European
ies] Note: This course will not fulfill the Language
r than English requirement of the BA degree.

T 348 Introduction to the Western Tradition in rary Criticism I
(either term, 3-0-0). An international survey of the
r developments in Western literary criticism from
quity to the early seventeenth century. Prerequisite:
T 100, or ENGL 101, or equivalent.

T 349 Introduction to the Western Tradition in rary Criticism II
(either term, 3-0-0). An international survey of the
r developments in Western literary criticism from
lassicism to the romantic age. Prerequisite: C LIT

T 354 Literature and the Theatre
(either term, 3-0-0). International comparative stud-
n the interrelationship of literature and the theatre.
equisite: C LIT 100, or ENGL 101, or equivalent.

T 355 Comparative Third-World Literatures I
(either term, 3-0-0). Introduction to the comparative
y of the literatures of Asia, Africa and Latin America
luding the Caribbean). Prerequisite: C LIT 100, or
L 101, or equivalent.

T 356 Comparative Third-World Literatures II
(either term, 3-0-0). Introduction to the comparative
y of the literatures of Asia, Africa, and Latin America
luding the Caribbean). Prerequisite: C LIT 100, or
L 101, or equivalent.

T 357 Modern Middle Eastern Literature
(either term, 3-0-0). A survey, in translation, of
ds in modern Arabic, Persian and Turkish literature.
requisite: C LIT 100, or ENGL 101, or equivalent.

T 358 Introduction to the Study of Themes and ifs I
(either term, 3-0-0). The study of selected interna-
al themes and motifs, their origin, and their literary
elopment. Prerequisite: C LIT 100, or ENGL 101, or
ivalent.

T 359 Introduction to the Study of Themes and ifs II
(either term, 3-0-0). The study of selected interna-
al themes and motifs, their origin and their literary
elopment. Prerequisite: C LIT 100, or ENGL 101, or
ivalent.

T 362 International Movements in ntemporary Literature
(either term, 3-0-0). This course is designed to
oduce the student to such topics as literature of the
urd, existential literature, and surrealism. Prerequi-
: C LIT 100, or ENGL 101, or equivalent.

T 363 Introduction to Comparative Latin erican and Caribbean Literature
(either term, 3-0-0). An introduction to Hispanic-
erican, Brazilian and Caribbean (Dutch, English,
nch) Literature (in translation when necessary) focussing
narily on the 19th and 20th centuries. Prerequisite:
T 100, or ENGL 101, or equivalent.

T 372 Introduction to the Comparative Study of nadian Prose
(either term, 3-0-0). A systematic introduction to
rative and other forms of prose of Canadian literatures,
efly French and English, examined on a comparative
is within an international framework. Prerequisite:
T 100, or ENGL 101, or equivalent.

T 373 Introduction to the Comparative Study of nadian Drama
(either term, 3-0-0). An introduction to Canadian
ma, chiefly French and English, examined on a
parative and historical basis. Prerequisite: C LIT
), or ENGL 101, or equivalent.

T 375 Literature and Music
(either term, 3-0-0). An introduction to the interna-
al comparative study of the influence of music on literature (individual works, movements, forms, and styles). Prerequisite: C LIT 100, or ENGL 101, or equivalent, and at least six units of course weight in music history covering the area of medieval, renaissance, baroque or classical, romantic, modern, or a combination of these areas.

C LIT 376 Introduction to Eighteenth and Nineteenth-Century Literature
★3 (either term, 3-0-0). A survey of European literatures during this period, stressing international parallels as regards genres, movements and styles. Prerequisite: C LIT 100, or ENGL 101, or equivalent.

C LIT 414 Studies in Western European-Slavic Literary Relations
★6 (3-0-0). Studies in non-Slavic relations in Slavic literature. Prerequisite: Reading knowledge of a Slavic language, or consent of Department.

C LIT 415 East Asian and European Literary Relations
★3 (either term, 3-0-0). A comparative examination of East Asian and European literary relations from the time of the decline of ancient civilization and the early middle ages to modern times. Prerequisite: C LIT 100, or ENGL 101, or equivalent, and one 300-level C LIT course.

C LIT 440 Comparative Studies in Paraliterature
★3 (either term, 3-0-0). An historical and typological introduction to the main kinds of paraliterature in their changing status in society and literature, as well as their interaction with the mainstream tradition. Prerequisite: C LIT 100, or ENGL 101, or equivalent, or consent of Department, and one 300-level C LIT course.

C LIT 447 Principles of Literary Interpretation
★3 (either term, 3-0-0). An introduction to the principles and problems of interpretation of literary texts with practical interpretations (e.g., Barthes, Eco, Todorov, Iser). Prerequisite: C LIT 100, or ENGL 101, or equivalent, and one 300-level C LIT course. Note: Not to be taken by students with credit in C LIT 347. Formerly C LIT 347.

C LIT 450 Introduction to the Western Tradition in Literary Criticism III
★3 (either term, 3-0-0). An international survey of the major developments in Western literary criticism from the later nineteenth century to the present. Prerequisite: C LIT 349, or consent of Department.

C LIT 455 The History of Comparative Literature
★3 (either term, 3-0-0). An introduction to the major theories and definitions of comparative literature viewed in a historical perspective. Prerequisite: Reading knowledge of one relevant language other than English; C LIT 100, or ENGL 101 and C LIT 348, or 349, or ENGL 315 or 317, or equivalent.

C LIT 464 Studies in the Concept of Genre
★3 (either term, 3-0-0). An introduction to the study of 'genre' in an international and historical context. It would examine the development of a specific genre (i.e., the novel) within a theoretical framework. Prerequisite: C LIT 100, or ENGL 101, or equivalent, and one 300-level C LIT course. Note: Not to be taken by students with credit in C LIT 364. Formerly C LIT 364.

C LIT 465 Literature and Society
★3 (either term, 3-0-0). International comparative studies on the interrelationship of literature and society, seen from the point of view of literature. Prerequisite: C LIT 100, or ENGL 101, or equivalent, and one 300-level C LIT course. Note: Not to be taken by students with credit in C LIT 365. Formerly C LIT 365.

C LIT 470 Psychological Theories in the Explication of Literature
★3 (either term, 3-0-0). The use of theories, such as those of Freud and Jung to explicate literary texts; examples will be drawn from a variety of literatures. Prerequisite: C LIT 100, or ENGL 101, or equivalent, and one 300-level C LIT course. Note: Not to be taken by students with credit in C LIT 370. Formerly C LIT 370.

C LIT 472 Advanced Comparative Studies in Canadian Literatures I
★3 (either term, 3-0-0). The study of problems in Canadian literatures involving material from more than one literature. Prerequisite: C LIT 100, or ENGL 101, or equivalent, and one 300-level C LIT course; reading knowledge of one relevant language other than English. Note: Not to be taken by students with credit in C LIT 471.

C LIT 473 Advanced Comparative Studies in Canadian Literatures II
★3 (either term, 3-0-0). The study of problems in Canadian literatures involving material from more than one literature. Prerequisite: C LIT 100, or ENGL 101, or equivalent, and one 300-level C LIT course; reading knowledge of one relevant language other than English. Note: Not to be taken by students with credit in C LIT 471.

C LIT 474 Studies in the Relationship of Literature and the Visual Arts
★3 (either term, 3-0-0). An introduction to the international comparative study of the influence of art on literature (individual works, movements, forms, and styles). The course will be taught from a literary perspective. Prerequisite: C LIT 100, or ENGL 101, or equivalent and one 300- level C LIT course; reading knowledge of one relevant language other than English, or consent of Department. Not to be taken by students with credit in C LIT 374. Formerly C LIT 374.

C LIT 475 Advanced Studies in Medieval Literature
★3 (either term, 3-0-0). The study of the major kinds of medieval literature within a European context. Prerequisite: C LIT 320, or consent of Department.

C LIT 491 Studies in Modern African Literatures I
★3 (either term, 3-0-0). A comparative examination of major trends in all genres of twentieth-century African literatures in European languages. Prerequisite: C LIT 100, or ENGL 101, or equivalent, and one 300-level C LIT course. Note: Not to be taken by students with credit in C LIT 391. Formerly C LIT 391.

C LIT 492 Studies in Modern African Literatures II
★3 (either term, 3-0-0). A comparative examination of major trends in all genres of twentieth-century African literatures in European languages. Prerequisite: C LIT 491. Note: Not to be taken by students with credit in C LIT 392. Formerly C LIT 392.

C LIT 495 Special Topics in Comparative Literary History I
★3 (either term, 3-0-0). Prerequisite: Reading knowledge of one relevant language other than English; C LIT 100, or ENGL 101, or equivalent, and one 300-level C LIT course. Note: Not open to students with credit in C LIT 495 *Special Topics in Comparative Literary History* (★6).

C LIT 496 Special Topics in Comparative Literary History II
★3 (either term, 3-0-0). Prerequisite: Reading knowledge of one relevant language other than English; C LIT 100, or ENGL 101, or equivalent, and one 300-level C LIT course.

C LIT 497 Special Studies in Comparative Literature I
★3 (either term, 0-3s-0). Prerequisite: C LIT 100, or ENGL 101, or equivalent, and one 300-level C LIT course.

C LIT 498 Special Studies in Comparative Literature II
★3 (either term, 0-3s-0). Prerequisite: C LIT 100, or ENGL 101, or equivalent, and one 300-level C LIT course.

Note: For graduate courses in Comparative Literature, refer to the Faculty of Graduate Studies and Research Section of the Calendar.

44.11.3 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department and/or the University timetable.

C LIT 340 Extrinsic Approaches to Literature
★6 (3-0-0). Designed to demonstrate, from a literary point of view, the use of extrinsic approaches in the study of literature; the nature of the course is introductory. It would examine such relations as literature and psychology, society and the other arts. Prerequisite: C LIT 100, or ENGL 101, or equivalent.

C LIT 371 Introduction to the Comparative Study of Canadian Poetry
★3 (either term, 3-0-0). A systematic introduction to the poetry of Canadian literatures, chiefly French and English, examined on a comparative basis within an international framework. Prerequisite: C LIT 100, or ENGL 101, or equivalent; reading knowledge of French.

C LIT 410 German-French Literary Relations
★6 (3-0-0). A survey of German-French and French-German literary relations from the Middle Ages to modern times, emphasizing periods of intense literary exchanges. Prerequisite: Reading knowledge of German and French, or consent of Department.

C LIT 411 German-English Literary Relations
★6 (3-0-0). A survey of German-English and English-German literary relations from the Renaissance to modern times, including nineteenth and twentieth century American-German and German-American relations. Prerequisite: Reading knowledge of German, or consent of Department.

C LIT 412 French-English Literary Relations
★6 (3-0-0). A survey of French-English and English-French literary relations from the Middle Ages to modern times, emphasizing periods of intense literary exchanges. Prerequisite: Reading knowledge of French, or consent of Department.

C LIT 413 French-American Literary Relations
★6 (3-0-0). A survey of French-American and American-French literary relations from the eighteenth century to modern times, emphasizing periods of intense literary influences. Prerequisite: Reading knowledge of French, or consent of Department.

C LIT 490 Modern Hebrew Literature in an International Context
★6 (3-0-0). Contemporary Hebrew fiction in relation to East European Romantic and realistic writing and to post-symbolist English, American, French, and German literature. The course is usually taught in translation. Prerequisite: Reading knowledge of at least one relevant language other than English.

44.12 Drama

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
DRAMA 201	DRAMA 102	DRAMA 291	DRAMA 191
DRAMA 202	DRAMA 101	DRAMA 347	DRAMA 247
DRAMA 249	DRAMA 149		

44.12.1 Junior Courses

DRAMA 101 Introduction to Theatre Art
★3 (either term, 3-0-0). The origins and development of theatre art; introduction to theatre aesthetics.

DRAMA 102 Play Analysis
★3 (first term, 3-0-0). Understanding of Drama through critical analysis of plays and its application to creative solutions in their production.

DRAMA 149 Introduction to Dramatic Process
★3 (either term, 0-6L-0). Speech and movement improvisation with an emphasis on imaginative development; introduction to the process of acting and to dramatic form. Note: Designed for students with little or no previous experience in Drama. Not normally to be taken by BA Drama majors.

DRAMA 191 Production Lab I
★3 (either term, 1-0-3). Technical theatre practice. Preparation and running of the production aspects of departmental plays. Prerequisite: Consent of Department. Note: Formerly DRAMA 275. Not open to students with credit in DRAMA 275.

44.12.2 Senior Courses

DRAMA 247 Introduction to and Development of Oral Communication
★3 (either term, 0-6L-0). Exploration of basic techniques of oral communication and oral interpretation drawing from various forms of literature. Prerequisite: Consent of Department. Not normally to be taken by BA Drama majors. Note: Not open to students with credit in DRAMA 243, 245, 341 and 342.

DRAMA 303 History of Canadian Theatre from its Origin to 1945
★3 (either term, 3-0-0). A survey of the evolution of theatre art in French and English Canada with reference to the actors, directors, playwrights, spaces and major trends in the Canadian theatre, from the 17th century until the end of World War II.

DRAMA 304 History of the Theatre
★6 (3-0-0). The development of the styles and crafts of the mise-en- scène, and of the relationship between the playing space and the audience, from the ancient Greek theatre to the end of the nineteenth century.

DRAMA 321 The Creative Process of Drama
★3 (first term, 0-4L-0). Theory and practice of the creative process of drama related to the development of human resources and theatre arts with application to children and young people. Prerequisite: DRAMA 149 and/or consent of Department.

DRAMA 323 Improvisation and Youth Theatre
★3 (second term, 0-6L-0). Practical and theoretical study of improvisational approaches to drama, applied to concepts of theatre by and for young people. Prerequisite: DRAMA 321 and/or consent of Department.

DRAMA 331 Introduction to Dramatic Movement
★3 (either term, 0-6L-0). Release, development and expansion of physical resources basic to movement expression; understanding of movement in relation to acting. Note: Restricted to BA and BEd Drama majors.

DRAMA 335 Movement Coaching in Rehearsal and Performance
★2 (0-0-1). Note: A single-term course offered over the full session. Restricted to BFA Acting students.

DRAMA 336 Beginning Movement I
★3 (first term, 0-8L-0). Beginning techniques in ballet for the actor; initial exploration of creative forms of movement. Note: Restricted to BFA (Acting) students.

DRAMA 338 Beginning Movement II
★3 (second term, 0-8L-0). Development of posture, flexibility and strength of body; investigation of the physical self in characterization. Prerequisite: DRAMA 336. Note: Restricted to BFA (Acting) students.

DRAMA 342 Introduction to Oral Communication
★3 (either term, 0-6L-0). Note: Restricted to BA Drama majors. Prerequisite: Consent of Department

DRAMA 345 Speech in Rehearsal and Performance
★2 (0-0-1). Note: Restricted to BFA Acting students. A half-course offered over the full session.

DRAMA 346 Voice and Speech I
★3 (first term, 0-6L-0). Introduction to voice and speech improvement; oral interpretation; singing. Note: Restricted to BFA (Acting) students.

DRAMA 348 Voice and Speech II
★3 (second term, 0-6L-0). Exploration of the voice for characterization; oral interpretation of forms of literature; singing. Prerequisite: DRAMA 346. Note: Restricted to BFA (Acting) students.

DRAMA 350 Introduction to Acting
★3 (either term, 0-6L-0). Dramatic improvisation as an introduction to the process of acting and to dramatic form. Prerequisite: Consent of Department. Note: Restricted to BA Drama majors. Not to be taken by students with credit in DRAMA 149 or 251.

DRAMA 351 Basic Make-up
★1 (second term, 0-0-3). Practice in use of basic materials in creating stage make-up. Note: Restricted to BFA (Drama) students and BMus (Voice) students.

DRAMA 353 Scene Study I
★3 (either term, 0-6L-0). The study of acting, including the analysis and enactment of scripted scenes, and characterization. Prerequisite: DRAMA 350 and/or consent of Department.

DRAMA 355 Acting in Rehearsal and Performance
★2 (0-0-3). Note: Restricted to BFA Acting students. A single-term course offered over the full session.

DRAMA 356 Beginning Acting Technique I
★3 (first term, 0-10L-0). Development of the self as the fundamental instrument of the actor. Note: Restricted to BFA (Acting) students.

DRAMA 358 Beginning Acting Technique II
★3 (second term, 0-10L-0). Introduction to characterization and script work based on realism. Prerequisite: DRAMA 356. Note: Restricted to BFA (Acting) students.

DRAMA 359 Improvisational Workshop
★3 (either term, 0-6L-0). Practice in the preparation and application of improvisational theatre. Prerequisite: DRAMA 149 or 350 and consent of Department.

DRAMA 360 Elements of Playwriting
★6 (0-4L-0). Study of and practice in creating the elements of a play. Prerequisite: ENGL 101 or its equivalent, and consent of Department.

DRAMA 370 Theatre Design I
★6 (0-10L-0). Study and practice of design for the theatre. Restricted to BFA (Design) students.

DRAMA 371 Studio Techniques for Theatre Design
★6 (0-4L-0). Study and practice of the studio techniques employed in theatre design. Note: Formerly DRAMA 271. Not open to students with credit in DRAMA 271.

DRAMA 372 Production Techniques—Lighting
★6 (0-6L-0). Foundation studies in the planning and practice of lighting design. Prerequisite: Consent of Department.

DRAMA 375 History of Decor and Dress
★6 (3-0-0). A survey of style in western civilization. Prerequisite: Consent of Department. Note: Not open to students with credit in CL TX 304 and 403.

DRAMA 377 Basic Design
★6 (0-10L-0). A studio course in design to obtain a basic grasp of design techniques for setting and costume. Prerequisite: Consent of Department based on the presentation of a portfolio (a body of work indicating some artistic competence and theatrical experience). Note: Formerly DRAMA 373. Not to be taken by students with credit in DRAMA 272 or 373.

DRAMA 379 Introduction to Stagecraft and Design
★3 (either term, 3-0-0). Introductory lectures in production techniques, construction, mechanics, lighting and design. Note: Not to be taken by students with credit in DRAMA 273 or 376. Formerly DRAMA 273 and 376.

DRAMA 383 Introduction to Directing
★3 (either term, 0-6L-0). Fundamentals of directing explored through practical exercises. Prerequisite: DRAMA 353 or 354 and consent of Department.

DRAMA 391 Production Lab I
★3 (either term, 0-0-6). Technical theatre pr
Preparation and running of the production aspe
Departmental plays. Prerequisite: DRAMA 379.
Not to be taken by students with credit in DRAMA
378. Formerly DRAMA 275 and 378.

DRAMA 392 Production Lab II
★3 (either term, 0-0-6). Production experience in
managing and/or technical theatre with qualified
cal experts. Prerequisite: DRAMA 378 and/or cont
Department.

DRAMA 393 Production Lab II B
★2 (first term, 0-0-2). Production organization;
ence in running of a play in performance. Restri
BFA (Acting) students. A required non-credit cou

DRAMA 399 Explorations in Acting I
★3 (0-3L-0). Exploration of dramatic text using
cises devoted to the coordination of the actor's
speech and movement. Note: A single-term
offered over the full session. Restricted to BFA (A
students. Course grading criterion is in terms of
non-credit' only.

DRAMA 400 Modern Theatre
★6 (3-0-0). Major plays and theatre artists of the m
theatre. Exploration of the styles and movements
form the mosaic of the contemporary theatre.

DRAMA 403 Modern Canadian Theatre
★3 (either term, 3-0-0). Survey of modern Can
theatre.

DRAMA 405 Third Year Honors Seminar
★2 (either term, 0-1s-0). Offered over a full sessio

DRAMA 407 Practical Studies in Drama
★3 (either term, 0-3L-0). Prerequisite: Conse
Department.

DRAMA 425 Theatre for Young Audiences
★3 (either term, 0-6L-0). Theory and practice of thea
young audiences including participatory techniques
requisite: DRAMA 323 or 353, and consent of Depart

DRAMA 434 Lyric Theatre
★6 (0-6L-0). Exploration in theatre forms empl
movement, music, dance, and acting. Prerequisite: Co
of Department.

DRAMA 435 Movement in Rehearsal and Performance
★2 (0-0-2). Note: Restricted to BFA Acting studen
single-term course offered over the full session.

DRAMA 436 Theatre Movement I
★3 (first term, 0-8L-0). Study of, and practice in,
of movement and dance, both period and contemp
Prerequisite: DRAMA 338. Note: Restricted to
(Acting) students.

DRAMA 438 Theatre Movement II
★3 (second term, 0-8L-0). Projects in styles and c
ography. Prerequisite: DRAMA 436 (★3). Note:
stricted to BFA (Acting) students.

DRAMA 442 Studies in Oral Interpretation
★3 (either term, 0-6L-0). Intensive work in the
expression of poetry, prose and dramatic litera
Prerequisite: DRAMA 247 or DRAMA 342 and cor
of Department.

DRAMA 445 Speech in Rehearsal and Performa
★2 (0-0-2). Note: Restricted to BFA (Acting) studen
single-term course offered over the full session.

DRAMA 446 Advanced Voice and Speech I
★3 (first term, 0-6L-0). Extension of the voice;
characterization; sight reading; singing. Prerequ
DRAMA 348. Note: Restricted to BFA (Acting) stud

DRAMA 448 Advanced Voice and Speech II
★3 (second term, 0-6L-0). Oral interpretation of p
dramatic forms; singing. Prerequisite: DRAMA 446.
Restricted to BFA (Acting) students.

DRAMA 453 Scene Study II
★3 (either term, 0-6L-0). Acting exercises based o
study of plays emphasizing complexity of language
characterization. Prerequisite: DRAMA 353 and cor
of Department.

DRAMA 455 Acting in Rehearsal and Performan
★3 (0-4L-0). Note: Restricted to BFA Acting studen
single-term course offered over the full session.

DRAMA 456 Advanced Acting Technique I
★3 (first term, 0-10L-0). Studies in characteriz
leading to laboratory performance. Prerequisite: DR
358. Note: Restricted to BFA (Acting) students.

DRAMA 457 Production/Performance
★3 (either term, 0-8L-0). Research, rehearsal, de
staging and presentation of a play by an acting ensem
Prerequisite: DRAMA 353 and/or consent of Departm

DRAMA 458 Advanced Acting Technique II
★3 (second term, 0-10L-0). Study of, and practice in,
main period styles of acting. Prerequisite: DRAMA
Note: Restricted to BFA (Acting) students.

MA 459 Collective Creation
second term, 0-6L-0). Practice in the preparation presentation of collective creation. Prerequisite: ent of Department.

MA 460 Playwriting
(0-4L-0). The theory and practice of writing for atic media: stage, film, radio, and television. Pre- site: DRAMA 360 and/or consent of Department.

MA 470 Theatre Design II
0-10L-0). Further study and practice of design for heatre. Prerequisite: DRAMA 370. Note: Restricted FA (Design) students.

MA 471 Technical Drawing for Theatre Design
2-0-1). Studies in drafting and perspective drawing he stage. Note: Restricted to BFA (Design) students. : Not open to students with credit in DRAMA 270.

MA 472 Production Techniques — Costume
0-6L-0). Theory and techniques of stage costuming. equisite: Consent of Department.

MA 473 Design Assistantship I
either term, 0-0-6). Practical experience in assisting lesigner. Corequisite: DRAMA 470. Note: Restricted FA (Design) students. Formerly DRAMA 493. Not to aken by students with credit in DRAMA 493.

MA 476 Production Design I
'0-0-6). Practical experience in designing an ele- t or elements of a production. Note: A single-term se offered over the full session. Restricted to BFA ign) students. Not open to students with credit in MA 470.

MA 483 Elements of Directing
either term, 0-6L-0). Developing the director's creative of the elements of directing through practical exer- s in scripted scenes. Prerequisite: DRAMA 383 and ent of Department.

MA 492 Running Crew Projects
either term, 0-0-6). Production organization: experi- in preparing and running of a play in performance. equisite: DRAMA 378 and/or consent of Department.

MA 499 Explorations in Acting II
(0-3L-0). Exploration of dramatic text related to od style with emphasis on characterization, mask and special problems. Prerequisite: DRAMA 399. : A single-term course offered over the full session. tricted to BFA (Acting) students. Course grading rion is in terms of 'credit/no credit' only.

MA 500 Theatre Aesthetics
(3-0-0). A systematic, historical examination of the hetic theories of drama and theatre from Aristophanes, totle, and Plato to contemporary thinkers, including e of the post-modern period.

MA 501 Seminar in Contemporary Theatre
(either term, 0-3s-0). Exploration of developments in emporary drama and theatre production in the west- world.

MA 503 Fourth Year Honors Seminar
(0-1s-0). Offered over a full session. Note: Formerly of DRAMA 505.

MA 505 Tutorial Fourth-Year Honors Essay
Preparation of the Honors essay under the guidance member of the Department.

MA 507 Senior Projects
(either term, 1-0-4). Prerequisite: Consent of Depart- nt.

MA 534 Advanced Movement
(0-6L-0). Instruction and projects for individual growth movement expression. Prerequisite: DRAMA 438. e: Restricted to BFA (Drama) students.

MA 535 Movement in Rehearsal and formance
(0-0-3). Note: Restricted to BFA Acting students. A gle-term course offered over the full session.

MA 544 Dialects and Accents/Language Styles
(0-7L-0). Survey of dialects and accents; intensive ctice in representative examples from the British s, Europe and North America; tutorial instruction to the actor's vocal needs; singing. Prerequisite: DRAMA . Note: Restricted to BFA (Drama) students.

MA 545 Speech in Rehearsal and Performance
(0-0-3). Note: Restricted to BFA Acting students. A gle-term course offered over the full session.

MA 551 Advanced Make-Up
(first term, 1-0-2). Practice in use of special materi- and in creating character make-up. Prerequisite: MA 351. Note: Restricted to BFA (Drama) students.

MA 553 Theatre Company I
(either term, 0-8L-0). The ensemble production and ring of improvisational or scripted plays. Prerequisite: nsent of Department.

MA 554 Rehearsal and Performance
(0-25L-0). Rehearsal and performance of roles in public production. Prerequisite: DRAMA 458. Note: Restricted to BFA (Acting) students.

DRAMA 555 Theatre Company II
★3 (either term, 0-8L-0). The ensemble production and touring of improvisational or scripted plays. Prerequisite: DRAMA 553 and/or consent of Department.

DRAMA 560 Advanced Dramatic Writing
★6 (0-3L-0). Major writing projects in dramatic media: stage, radio, television, film. Prerequisite: DRAMA 460 and/or consent of Department.

DRAMA 570 Theatre Design III
★6 (0-6L-0). A specialized course for advanced students, designed to meet the needs of the individual. Prerequisite: DRAMA 470. Note: Restricted to BFA and Qualifying graduate (Design) students.

DRAMA 571 Portfolio
★6 (0-4L-0). Presentation, audition, Director/Designer dialogue and the business nature of the design profession.

DRAMA 572 Production Techniques — Scenery
★6 (0-6L-0). Theory and techniques of the texturing and painting of scenery. Prerequisite: Consent of Department. Note: Not to be taken by students with credit in DRAMA 575. Formerly DRAMA 575.

DRAMA 573 Design Assistantship II
★6 (0-0-6). Practical experience in assistant designing. Corequisite: DRAMA 570. Note: Restricted to BFA and Qualifying graduate (Design) students. Not to be taken by students with credit in DRAMA 593. Formerly DRAMA 593.

DRAMA 574 Practicum
★6 (0-9L-0). A practical extension of the production techniques courses, involving the student in the production process of main stage shows. Prerequisite or corequisite: DRAMA 372, 472, 572.

DRAMA 576 Production Design II
★3 (0-0-6). Practical experience in designing an element or elements of a production. Note: A single-term course offered over the full session. Restricted to BFA and Qualifying graduate (Design) students.

DRAMA 577 Special Projects
★3 (either term, 0-6L-0). Special projects in design and production. Formerly part of DRAMA 507.

DRAMA 583 Play Production Process
★3 (either term, 0-6L-0). The problems in execution of the complete script. Prerequisite: DRAMA 483 and consent of Department.

DRAMA 595 Professional and Critical Orientation
★0 (2-0-0). A non-credit course required for graduation. Note: Restricted to fourth-year BFA (Drama) students.

DRAMA 599 Explorations in Acting III
★2 (0-2L-0). Prerequisite: DRAMA 499. Note: A single-term course offered over the full session. Restricted to BFA (Acting) students. Course grading criterion is in terms of 'credit/no credit' only.

44.12.3 Honors Courses

DRAMA 500 Theatre Aesthetics
★6 (3-0-0). A systematic, historical examination of the aesthetic theories of drama and theatre from Aristophanes, Aristotle, and Plato to contemporary thinkers, including those of the post-modern period.

DRAMA 501 Seminar in Contemporary Theatre
★3 (either term, 0-3s-0). Exploration of developments in contemporary drama and theatre production in the western world.

DRAMA 503 Fourth Year Honors Seminar
★2 (0-1s-0). Offered over a full session. Note: Formerly part of DRAMA 505.

DRAMA 505 Tutorial Fourth-Year Honors Essay
★6 Preparation of the Honors essay under the guidance of a member of the Department.

Note: For graduate courses in Drama refer to the Faculty of Graduate Studies and Research Section of the Calendar.

44.13 East European and Soviet Studies

Department of Slavic and East European Studies

INT D 346 Introduction to Eastern Europe and the Soviet Union
★6 (3-0-0). An interdisciplinary Introduction to the study of the socialist system with special reference to the Soviet Union and East Europe. (Offered jointly by the Departments of Slavic and East European Studies, Comparative Literature, Economics, Geography, History, Political Science, Sociology.) [Slavic and East European Studies] Note: This course will not fulfill the Language other than English requirement of the BA degree.

INT D 347 Women and Socialism: USSR and Eastern Europe
★3 (second term, 3-0-0). Theory and practice of socialism as related to the status of women in Eastern Europe and the Soviet Union. Prerequisite: Consent of Department. (Offered jointly by the Departments of Slavic and East European Studies, Political Science, and Sociology.) [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

INT D 444 Ukraine
★3 (either term, 3-0-0). Major social, economic, political, and cultural trends in the Ukrainian SSR in the post-World War II period. Prerequisite or corequisite: An area-related three-weight course in one of geography, history, political science, or Ukrainian, or consent of Department of Slavic and East European Studies. (Other participating unit normally includes the Department of History). [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

INT D 445 Poland
★3 (either term, 3-0-0). The political, social, economic, and cultural developments in post World War II Poland. Prerequisite: INT D 346, or POLSH 304, or equivalent, or demonstration to the Department of Slavic and East European Studies of sufficient background in the area. (Other participating units normally include the Departments of Economics, Fine Arts, Geography and Sociology). [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

INT D 447 Soviet Political Thought
★3 (either term, 3-0-0). Consideration of Russian and Soviet critical political thought, and current discussions in the USSR and abroad on a wide range of political topics, from the organization of state power, interpretations of the history of the USSR and its ideology, to people's rights and freedoms, to nationality issues, and other current political problems. (Offered jointly by the Departments of Political Science and Slavic and East European Studies). [Slavic and East European Studies]. Prerequisite: A course in the Soviet/Russian area, or permission of instructor. Note: Not to be taken by students with credit in INT D 447 (Soviet Dissent).

INT D 479 Honors Thesis
★3 (either term, 3-0-0). Directed Honors thesis research. Note: Required of all BA (Honors) Students majoring in Slavic and East European Studies who are in their final year of study.

INT D 499 Conference Course (Soviet Union and Eastern Europe)
★3 (either term, 3-0-0) or ★6 (3-0-0). Seminar for advanced students in Slavic and East European Studies designed to introduce fundamental questions in the field. [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

INT D 546 East European and Soviet Studies
★6 (3-0-0). An interdisciplinary seminar. (Offered jointly by the Departments of Slavic and East European Studies, Comparative Literature, Economics, Geography, History, Political Science, Sociology.) [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

Note: For additional courses relating to the Soviet Union and Eastern Europe, see also entries under Comparative Literature, Economics, Geography, History, Political Science, and Sociology.

Note: For graduate courses in Slavic and East European Studies, refer to the Faculty of Graduate Studies and Research Section of the Calendar.

44.13.1 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department and/or the University timetable.

INT D 443 The Soviet North and Siberia: Native Communities
★3 (either term, 3-0-0). The economy, political administration, and the social development of the native peoples of Siberia and the Soviet North. Prerequisite or corequisite: An area-related course in one of Geography, Political Science, Economics, or consent of Department of Slavic and East European Studies. (Other participating units normally include the Departments of Anthropology, Economics, and Geography). [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

INT D 446 Eastern Europe: A Travel-Study Course
★6 (5-0-15). An intensive interdisciplinary study of Eastern Europe and the Soviet Union, in Eastern Europe itself. Designed to provide an understanding of the area by directed study on location. Note: The course is offered only in the Intersession in countries of Eastern Europe and the USSR on a selected basis and includes intensive study in one or more countries. Prerequisite: INT D 346 or consent of Department. Pre-session study and preparation. [Slavic and East European Studies].

44.14 Economics

The following table lists renumbered courses effective 1990-91:

Old	New
ECON 201	ECON 101
ECON 202	ECON 102
ECON 304	ECON 204

The following table lists renumbered courses effective 1991-92:

Old	New
ECON 381	ECON 281
ECON 382	ECON 282

44.14.1 Junior Courses

ECON 101 Introduction to Microeconomics
★3 (either term, 3-0-0). Economic analysis, problems, and policies with emphasis on the Canadian economy; the roles of consumers and firms in competitive and monopolistic markets; foreign ownership in the Canadian economy: the distribution of income, inequality, and poverty; the use of the environment; government economic policies. Prerequisite: Mathematics 30, or consent of Department.

ECON 102 Introduction to Macroeconomics
★3 (either term, 3-0-0). Economic analysis, problems, and policies with emphasis on the Canadian economy; national income and monetary theory; problems of unemployment and inflation; government monetary and fiscal policies; international trade theory, problems, and government policies. Prerequisite: Mathematics 30 or consent of Department.

44.14.2 Senior Courses

Note: 400-level courses in Economics presume some familiarity with calculus.

ECON 281 Intermediate Microeconomics Theory I
★3 (either term, 3-0-0). The theory of consumer behaviour; theory of production and cost; price and output determination under competition, monopoly and other market structures. Prerequisite: ECON 101/102 or consent of Department.

ECON 282 Intermediate Macroeconomic Theory
★3 (either term, 3-0-0). National income concepts and income determination; theories of aggregate consumption, investment and employment behavior; monetary and fiscal policy. Prerequisite: ECON 101/102 or consent of Department. Not open to students with credit in MANEC 333 or MANEC 402.

INT D 302 Economics of Agriculture
★3 (either term, 3-0-0). The nature and scope of agricultural economics; economic aspects of agricultural production, marketing, finance, resource use, prices, and policy; relation of the agricultural sector to the economy as a whole; analysis of structural change, economic growth, and adjustment in agriculture. Prerequisite: ECON 101/102. (Offered jointly by the Departments of Economics and Rural Economy.) [Rural Economy]

INT D 303 Economics of World Agriculture
★3 (either term, 3-0-0). Economic issues in international agriculture including world food security, farming systems, agricultural trade and aid. The role of agriculture in development and means of improving the performance of agriculture world-wide. Foreign domestic agricultural policies and international trade protection measures, and potential reforms in relation to Canadian agricultural interests. Prerequisite: ECON 101/102. (Offered jointly by the Departments of Economics and Rural Economy). [Rural Economy]

ECON 305 Introduction to Economic Ideas
★3 (either term, 3-0-0). An introduction to the principles of economics which stresses the development of these ideas through time and their relevance to society. Note: A student may not receive credit in more than two of ECON 101, 102 (or the former ECON 306, 307), and 305, nor may ECON 305 be used to replace ECON 101 or 102 as a prerequisite to senior courses.

ECON 308 American Economic Development
★3 (either term, 3-0-0). A survey of American economic development from colonial times to the present. Prerequisite: ECON 101/102.

ECON 310 Japanese Economic Development
★3 (either term, 3-0-0). An analytical survey of economic factors leading to Japan's present position in world trade. Prerequisite: ECON 101/102, or ECON 204.

ECON 311 Chinese Economic Development
★3 (either term, 3-0-0). A survey of the characteristics of and recent developments in the Chinese economy emphasizing the nature and consequences of China's economic reforms and Canada's economic relations with China. Prerequisite: ECON 101/102, or ECON 204.

ECON 312 European Economic Development
★3 (either term, 3-0-0). A survey of economic changes in Western Europe from the Industrial Revolution to the present. Note: Not to be taken by students with credit in HIST 337. Prerequisite: ECON 101/102.

ECON 313 An Introduction to the Economics of Developing Countries
★3 (first term, 3-0-0). A survey of the major approaches to and problems of economic development in the less developed countries with particular emphasis on issues relating to savings and investment, income distribution, employment and population growth, and trade and aid. Prerequisite: ECON 101/102.

ECON 318 An Introduction to Canadian Economic Development I
★3 (first term, 3-0-0). Analysis of Canadian economic development before World War I with particular emphasis on Confederation, the National Policy and western settlement. Prerequisite: ECON 101/102 or consent of Department. Note: A student may not receive credit in both ECON 316 and 318.

ECON 319 An Introduction to Canadian Economic Development II
★3 (second term, 3-0-0). Analysis of Canadian economic development since World War I with special attention afforded to recurrent policy issues such as trade liberalization, foreign investment, regional disparities and macroeconomic performance. Prerequisite: ECON 318. Note: A student may not receive credit in both ECON 317 and 319.

ECON 323 International Economics
★3 (either term, 3-0-0). A survey of the principles of international economics and the applications to economic policy. The topics are foreign trade, foreign investment, and the balance of payments. Prerequisite: ECON 101/102 or consent of Department.

ECON 331 Labor Economics
★3 (first term, 3-0-0). Theory and empirical evidence concerning the supply of and demand for labor services, wage differentials, and the impact of unions. Some of the policy issues to be discussed are income maintenance, unemployment insurance, and minimum wage legislation. Prerequisite: ECON 101/102 or consent of Department.

ECON 332 Labor Market Policy
★3 (second term, 3-0-0). Analytical and policy issues relating to human resource development and manpower utilization with particular reference to Canadian contemporary issues. Prerequisite: ECON 331 or consent of Department.

ECON 341 Money and Banking
★3 (either term, 3-0-0). Analysis of money and credit in the exchange process; financial intermediaries; commercial banking; central banking. The primary focus of this course will be on the supply of money and elementary issues of monetary control. Prerequisite: ECON 101/102 or consent of Department.

INT D 346 Introduction to Eastern Europe and the Soviet Union
★6 (3-0-0). An interdisciplinary introduction to the study of the socialist system with special reference to the Soviet Union and East Europe. (Offered jointly by the Departments of Slavic and East European Studies, Comparative Literature, Economics, Geography, History, Political Science, Sociology.) [Slavic and East European Studies] Note: This course will not fulfill the Language other than English requirement of the BA degree.

ECON 350 The Economics of Public Expenditures
★3 (either term, 3-0-0). Analysis of public sector expenditures in Canada. The rationale for government spending and the problems in the provision of public services. Prerequisite: ECON 101/102 or consent of Department. Not open to students with credit in ECON 351.

ECON 353 Taxation Policy and Structure
★3 (either term, 3-0-0). Analysis of the Canadian tax structure and its role in attaining certain goals of society; requirements for an optimal tax structure. Prerequisite: ECON 101/102 or consent of Department.

ECON 355 Economics of Project Evaluation
★3 (either term, 3-0-0). The use of cost-benefit a and other economic methods in evaluating public inve projects with examples from transportation, rive management, electrical generation, oil and ga pollution control. Prerequisite: ECON 101/102, or consent of Department.

INT D 357 Health Care Economics
★3 (either term, 3-0-0). Resource allocation health care industry; production and cost relatio within various types of institutional settings (h medical firm) the role of the price mechanism in a ing resources. Manpower planning; the role of th ernment and professional groups in allocating res in the non-price sector of the health industry. (C jointly by the Departments of Economics and Services Administration.) [Health Services Administ

ECON 363 Introduction to Regional Economics
★3 (either term, 3-0-0). An appraisal of the his and current pattern of regional income disparit Canada, with analysis emphasizing the causes of re variations in employment and economic growth An assessment of present federal and provincial p designed to alleviate regional disparities will be combined with new policy programs that may b evant. Prerequisite: ECON 101/102 or consent partment.

ECON 365 Resource Economics
★3 (either term, 3-0-0). Problems of allocatio development of natural resources, including cont rary Canadian resource policy issues; nature and of resources; the economics of conservation and res scarcity; and the role of resources in growth. Pre site: ECON 101/102, or 204.

ECON 366 Energy Economics
★3 (either term, 3-0-0). Types of energy reso substitutability, conversion. The relevance of ene economic growth. Energy as input and as a consu good. An overview of quantities available and usec problems of measuring energy, the energy balanc energy industries. The role of energy in Canadian nomic development. World energy markets. Energy problems. Prerequisite: ECON 101/102, or 204.

INT D 369 Economics of the Environment
★3 (either term, 3-0-0). Economic growth and the rioration of the environment; types and causes of ronmental deterioration; theory, policy, and measure relating to environmental deterioration; recreation nomics; and current Canadian environmental t Prerequisite: ECON 101 or 204. (Offered jointly b Departments of Economics and Rural Economy.) nomics]

ECON 373 Industrial Organization
★3 (either term, 3-0-0). A survey of the behavior performance of firms in different market structures discussion of public policy toward the different s tures. Prerequisite: ECON 101/102 or consent of partment.

ECON 384 Intermediate Microeconomic Theory
★3 (either term, 3-0-0). Designed for Honors stud and majors in Economics. Extensions and applica of microeconomic theory with emphasis on ge equilibrium analysis. The following topics are exam intertemporal choice, risk, uncertainty and expe utility; oligopoly and game theory; Walrasian models models with entry; welfare, externalities, public g and social choice; adverse selection, moral hazard asymmetric information. Prerequisite: ECON 281 MATH 113 or equivalent.

ECON 386 Applications of Mathematics to Economics I
★3 (first term, 3-0-0). Elements of logic and set the linear algebra, differential calculus and their conj tion, as used in classical and modern economic ar sis. Prerequisite: ECON 281/282; MATH 113/12 equivalent.

ECON 387 Applications of Mathematics to Economics II
★3 (second term, 3-0-0). Difference and differe equations, linear inequalities, convexity, programm assorted theorems of special use in modern econc analysis. Prerequisite: ECON 386.

ECON 391 Economic Institutions and Ideologies
★3 (either term, 3-0-0). Pre-capitalist Europe; the ris individualism and the individualistic ethic; indus capitalism; economics of Marx and Socialism; the ris corporate capitalism; the consolidation of monopoly pol economic imperialism; Keynesian economics and econc policies; contemporary capitalism and its critics.

ECON 392 Comparative Economics
★3 (either term, 3-0-0). A comparative study of institutions and theories of important contemporary e tems of economic organization, with emphasis on 'mixed' capitalist economy, 'market socialism,'

ly planned economics. A survey of socialist eco-
thought in particular Marxian economics. Prereq-
ECON 101/102 or consent of Department.

393 The Soviet Economy
ther term, 3-0-0). The development and institu-
arrangements of the Soviet economy, Soviet ex-
e with central planning. Economic performance
evaluation. Soviet economic reforms. Prerequi-
ON 101/102 or consent of Department.

399 Introductory Econometrics
ther term, 3-0-1). An elementary treatment of the
opics in econometrics with emphasis on applied
ion methods. Prerequisite: ECON 281/282, ECON
6 or STAT 255 or equivalent. Note: Not open to
ts with credit in AG EC 416 or ECON 408 or
C 413 or 414 or 417 or 419 or STAT 341.
its transferring to the Certificate of Equivalence
1) after completing a BA (General) degree can
ute STAT 141 or 236 for ECON 395/396 with
sion of the Department.

401 History of Economic Thought I
ther term, 3-0-0). A survey of economic opinion
eories from Mercantilism to the Marginal Revolu-
mphasis on both theoretical and socioeconomic
ires at various epochs of economic thinking. Pre-
te: ECON 281.

402 History of Economic Thought II
ither term, 3-0-0). A survey of the economic
ns and theories from the rise of Neoclassical
mics to contemporary Macroeconomics. Emphasis
on both theoretical and socioeconomic structures
ious epochs of economic thinking. Prerequisite:
281/282.

405 Computer Applications in Economics
ither term, 3-0-0). An introduction to the relation-
etween economic analysis and modern high speed
iters. Topics include computer techniques useful
nomics, computerized statistical techniques, and
nation of selected economic models of both a
matical and stochastic nature. Prerequisite: ECON
32 and MATH 113 or equivalent and ECON 395/
STAT 255 or STAT 141 or equivalent.

407 Econometric Methods I
st term, 3-0-0). Statistical inference in economics.
in statistical theory with emphasis on estimation
sts of hypotheses. The general linear regression
Prerequisite: ECON 395/396 or STAT 255 or
lent and ECON 386/387 or consent of Department.
uisite: ECON 481/482 or consent of Department.

408 Econometric Methods II
econd term, 3-0-0). Econometric problems and
ques with emphasis on regression methods. Single
ion techniques and introduction to simultaneous
on systems. Prerequisite: ECON 407 or equivalent.

410 Canadian Economic Relations with the ic Rim
ither term, 3-0-0). An examination of the institutional
evelopmental characteristics of Pacific Rim coun-
including comparisons with North American institu-
Contemporary economic problems and international
issues of the Pacific Rim emphasizing trade and
ment ties. Prerequisite: ECON 281.

412 European Economic Development
either term, 3-0-0). The application of economic
and research methodology to selected topics in
ean economic development. Prerequisite: ECON

414 Economics of Developing Countries
either term, 3-0-0). An introduction to models of
h and development; the role of agriculture, indus-
nance, and trade in structural transformation of
oping countries; approaches to development plan-
Prerequisite: ECON 281 or 282.

418 Canadian Economic Development
either term, 3-0-0). Introduction to 'new economic
y,' emphasizing the methodology of quantitative
omic history research. Prerequisite: ECON 281 or
ent of Department.

421 International Trade
irst term, 3-0-0). Nature and relevance of interna-
trade; early trade doctrines; the theory of com-
ive advantage, classical and modern approaches
mpirical evidence for them; new approaches to the
theory of international trade; economic growth and
national trade; market imperfections and trade;
nercial policy; economic integration and the gains
trade. Prerequisite: ECON 281.

422 International Payments
econd term, 3-0-0). Types of international transactions,
oeconomics in an open economy, exchange rates,
ce of payments adjustments, and other issues in
nternational monetary system. Prerequisite: ECON
282.

ECON 431 Labor Economics
★3 (either term, 3-0-0). An advanced treatment of demand for labor, supply of labor, wage differentials, trade union behavior, and related topics. Prerequisite: ECON 281, ECON 331, or consent of Department.

ECON 441 Monetary Theory and Policy
★3 (either term, 3-0-0). The theory of the demand for money; money, inflation and economic activity; monetary policy. Prerequisite: ECON 282.

ECON 442 The Economics of Financial Markets
★3 (either term, 3-0-0). The meaning and measurement of risk; portfolio analysis — individual choice and market equilibrium; interest rates and the term structure; intertemporal and macro-policy issues; debt management. Prerequisite: ECON 281/282, ECON 341, STAT 255 or 141 or equivalent.

ECON 453 Economics of Taxation
★3 (either term, 3-0-0). Analysis of the effects of taxation on the economic decisions of households and firms as reflected in the allocation of resources in the economy and the distribution of the tax burden. Measurement of the efficiency and incidence of the tax system. Prerequisite: ECON 281. Not open to students with credit in ECON 352.

ECON 455 Welfare Economics and Public Sector Policies
★3 (either term, 3-0-0). Theoretical welfare economics applied to the analysis of public policies, including such topics as the measurement of economic inequality, cost-benefit analysis, and public sector pricing. Prerequisite: ECON 281.

ECON 461 Transportation Economics
★3 (either term, 3-0-0). Economic analysis of alternative transportation systems (water, air, road, and rail, for both freight and passengers). Role of transportation in urban, regional, and national economic development. Public policy toward transportation. Prerequisite: ECON 281.

ECON 462 Urban Economics
★3 (either term, 3-0-0). An examination and analysis of the economic aspects of urban spatial organization (e.g. residential land use, firm location strategy), housing, transportation, and urban public finance. Prerequisite: ECON 281.

ECON 466 The Economics of Non-Renewable Natural Resources
★3 (either term, 3-0-0). The economic theory of non-renewable natural resources, resource allocation and resource policies with a focus on petroleum and natural gas supply and demand. Prerequisite: ECON 281. Note: ECON 365 and/or 366 are recommended as additional prerequisites.

ECON 471 Industrial Organization Theory and Evidence
★3 (first term, 3-0-0). Theories of the firm. Determinants and measures of market structure. Oligopoly theory, cartel formation, horizontal product differentiation and advertising. Entry and strategic entry deterrence. Innovation and Research and Development. Prerequisite: ECON 281.

ECON 472 Industrial Behavior and Regulation
★3 (second term, 3-0-0). An economic analysis of firm behavior under alternative market structures and its implications for competitive policy, including: price discrimination, tie-in sales, horizontal pricing arrangements, mergers, predation, and vertical market restrictions. Economic analysis of public utility regulation and regulation of industries with competitive market structures. Prerequisite: ECON 281.

ECON 481 Advanced Microeconomic Theory
★3 (either term, 3-0-0). Theory of distribution; general equilibrium analysis; welfare economics. Prerequisite: ECON 281 and 282 and 386 or equivalent or consent of Department.

ECON 482 Advanced Macroeconomic Theory
★3 (either term, 3-0-0). An advanced course in aggregate economic behavior dealing with inflation, employment and stabilization policy analysis. Other topics will be selected from the areas of business cycle theory, micro-foundations of macro models, government budget constraints, expectations formation and open economy issues. Prerequisite: ECON 281 and 282 and 386 or equivalent or consent of Department. Note: Familiarity with linear algebra as well as calculus is highly desirable.

ECON 485 Macroeconomic Policy
★3 (either term, 3-0-0). An application of macroeconomic theory to the policy experiences of Canada and other nations. Prerequisite: ECON 282.

ECON 491 Topics in Socialist Economic Thought
★3 (either term, 3-0-0). Survey and criticism of socialist theories of capitalist development from Marx to the present; 20th century socialist economic doctrines concerning capitalist regulation, economic inequality, the welfare state, central economic planning and third world underdevelopment, the aims and nature of contemporary radical economics. Prerequisite: ECON 281 or consent of Department.

ECON 498 Directed Readings I
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

ECON 499 Directed Readings II
★3 (either term, 3-0-0). Prerequisite: Consent of Department

Note: For graduate courses in Economics, refer to §204.22.4 of this Calendar.

44.14.3 Service Courses

ECON 204 Principles of Economics
★3 (either term, 3-0-0). An introduction to economic principles as applied to business organization and finance; price determination; enterprise costs and output optimization; commercial and central banking; national income analysis. For students enrolled in the Faculty of Engineering only.

ECON 383 Microeconomics for Canadian Business Management
★3 (either term, 3-0-0). Theories of choice as applied to consumer behavior and business decisions; production and price determination in alternative market forms; interrelatedness of firm decisions and of market outcomes; the impact of uncertainty. Prerequisite: ECON 101/102, MATH 113 or equivalent. Note: For students enrolled in the Faculty of Business only. Students cannot receive credit in both ECON 281 and ECON 383. ECON 383 may be used as a prerequisite to 400-level economics courses instead of ECON 281.

ECON 558 Finance in the Public Sector
★3 (either term, 3-0-0). Note: Restricted to students in the MPM Program.

44.14.4 Reserve List

The Department cannot offer these courses regularly. Students should consult the Department and/or the University timetable.

ECON 395 Statistics for Economists I
★3 (first term, 3-0-1). An introduction to statistical concepts and their application in economics. Sources and uses of data in economic research; descriptive statistics; elementary probability and sampling theory. Prerequisite: ECON 101/102 or consent of Department. Note: Economics students requiring introductory courses in Statistics should take STAT 255 in lieu of ECON 395 and 396.

ECON 396 Statistics for Economists II
★3 (second term, 3-0-1). Estimation and tests of hypotheses; regression analysis; analysis of variance; index numbers and time series. Prerequisite: ECON 395 or consent of Department. Note: Economics students requiring introductory courses in Statistics should take STAT 255 in lieu of ECON 395 and 396.

44.15 English

The courses listed below represent an extensive reorganization and modification of the Department's offerings. Because of changes in course numbers and/or content, students should compare their new course selections with courses previously taken, so as to avoid duplication or overlap.

The following table lists renumbered courses effective 1990-91 only:

Old	New	Old	New
ENGL 200	ENGL 100	ENGL 220	ENGL 120
ENGL 210	ENGL 110	ENGL 270	ENGL 170
ENGL 214	ENGL 114	ENGL 275	ENGL 175
ENGL 219	ENGL 119		

The following table lists renumbered courses effective 1991/92:

Old	New	Old	New
ENGL 114	ENGL 199	ENGL 369	ENGL 362
ENGL 119	ENGL 108	ENGL 370	ENGL 366
ENGL 120	ENGL 109	ENGL 372	ENGL 355
ENGL 170	ENGL 104	ENGL 373	ENGL 358
ENGL 175	ENGL 105	ENGL 374	ENGL 380
ENGL 301	ENGL 510	ENGL 378	ENGL 395
ENGL 302	ENGL 511	ENGL 379	ENGL 394
ENGL 303	ENGL 287	ENGL 380	ENGL 369
ENGL 304	ENGL 388	ENGL 381	ENGL 371
ENGL 305	ENGL 389	ENGL 382	ENGL 372
ENGL 306	ENGL 212	ENGL 383	ENGL 360
ENGL 307	ENGL 299	ENGL 388	ENGL 375
ENGL 308	ENGL 399	ENGL 389	ENGL 376
ENGL 309	ENGL 298	ENGL 390	ENGL 373

ENGL 316 ENGL 324 ENGL 391 ENGL 374
ENGL 318 ENGL 204 ENGL 401 ENGL 520
ENGL 332 ENGL 338 ENGL 402 ENGL 521
ENGL 333 ENGL 239 ENGL 405 ENGL 413
ENGL 334 ENGL 339 ENGL 406 ENGL 412
ENGL 336 ENGL 327 ENGL 407 ENGL 495
ENGL 345 ENGL 350 ENGL 408 ENGL 494
ENGL 350 ENGL 352 ENGL 409 ENGL 498
ENGL 351 ENGL 353 ENGL 410 ENGL 411
ENGL 356 ENGL 351 ENGL 431 ENGL 444
ENGL 357 ENGL 305 ENGL 432 ENGL 454
ENGL 358 ENGL 462 ENGL 441 ENGL 445
ENGL 360 ENGL 361 ENGL 442 ENGL 455
ENGL 361 ENGL 365 ENGL 470 ENGL 479
ENGL 362 ENGL 367 ENGL 472 ENGL 474
ENGL 363 ENGL 368 ENGL 473 ENGL 475
ENGL 364 ENGL 377 ENGL 474 ENGL 477
ENGL 365 ENGL 363 ENGL 501 ENGL 530
ENGL 366 ENGL 206 ENGL 502 ENGL 531
ENGL 367 ENGL 364 ENGL 503 ENGL 532
ENGL 368 ENGL 468

44.15.1 Junior Courses

Most students will take ENGL 101, a full-session course. ENGL 101 is the prerequisite to all senior English courses. The former ENGL 100 and 110 have been replaced by ENGL 101. Students with credit in ENGL 100 or 110 should not take ENGL 101 and may proceed to senior English courses. Students outside the Faculty of Arts who require only three units of course weight of junior English in their degree program may take ENGL 104 or ENGL 105.

Note: Normally no more than one full session junior English course, or equivalent, may be offered for credit in an undergraduate program.

Junior English courses require a substantial amount of writing in essays and tests to afford practice in setting down ideas in good English.

ENGL 101 Critical Reading and Writing
★6 (3-0-0). A study of literature in English, concentrating on works written since 1800. Instructors may take differing approaches, emphasizing genre, history, or theme. All sections will include instruction in writing skills. Note: Not to be taken by students with credit in ENGL 100 or in ENGL 110 or in ENGL 104/105.

ENGL 104 Readings in Poetry
★3 (either term, 3-0-0). A close study of selected modern and traditional verse to introduce the student to ways of approaching and critically evaluating poetry. Note: Not for degree credit to students enroled in the BA degree program (AR20).

ENGL 105 Readings in Prose
★3 (either term, 3-0-0). A close study of novels, short stories, essays, and other forms, both modern and traditional, to introduce the student to ways of approaching prose, and to assist the student in reading critically. Note: Not for degree credit to students enroled in the BA degree program (AR20).

44.15.2 Senior Courses

Note: All senior courses have as prerequisite ENGL 101 or equivalent; unless otherwise stated, prerequisites for 400-level courses are ENGL 201 and six units of course weight of 300-level English (as numbered in this edition of the Calendar). Students who have credit in ENGL 100 or 200 may not take ENGL 201; they will substitute six units of course weight of 200-level or 300-level English (as numbered in this edition of the Calendar). For 1991-92 only, students who have credit in ENGL 110 or 210, or 170/175 or 270/275, may enroll in 400-level literature courses (numbered ENGL 401-404, 420-493) by presenting in lieu of ENGL 201 six units of course weight, including any specific course prerequisites, from among ENGL 204-206, 239-287, 320-391 (as numbered in this edition of the Calendar); and in 400-level language or writing courses (numbered ENGL 411-413, 494-495, and 498) by meeting the course prerequisites. Those who are planning to take 400-level courses in 1992/93 must enroll in September 1991 in ENGL 201; they are reminded that they may take ENGL 201 concurrently with 300-level courses.

Not all senior courses are offered in any given year.

ENGL 201 Literature in English, Beginnings to 1800
★6 (3-0-0). A close study of representative works which demonstrate the development of the English literary tradition to 1800. Prerequisite: ENGL 101. Not to be taken by students with credit in ENGL 100.

ENGL 202 Surveys of Literatures written in English
★6 (3-0-0). [Variable content course.]

ENGL 204 Traditions in English Poetry
★6 (3-0-0). The traditions, forms, and techniques of English poetry.

ENGL 206 The Short Story
★3 (either term, 3-0-0). Representative works of writers illustrating the tradition of the short story in English.

ENGL 212 Introduction to the English Language
★3 (either term, 3-0-0). This course introduces the grammar of English sounds, words, and sentences as a basis for further studies in language and literature. Note: Not to be taken by students with credit in former ENGL 288 or 313, or in LING 101 or 203.

ENGL 239 Shakespeare
★3 (either term, 3-0-0). A reading of nine plays, representing the range of Shakespeare's work, the plays to include *Midsummer Night's Dream, King Henry the Fourth, Part I, As You Like It, Julius Caesar, Hamlet, Othello, The Tempest.* Note: Not to be taken by students with credit in ENGL 338.

ENGL 271 Canadian Literature: Major Writers and Movements
★6 (3-0-0). A study of the growth of English-Canadian literature in its cultural context from the colonial period to the present, with an emphasis on major writers and movements. Note: Not open to students with credit in ENGL 371 Canadian Literature to 1925 or ENGL 372 Canadian Literature from 1925.

ENGL 287 Children's Literature in English
★6 (3-0-0). An historical and critical study of children's literature in English. It includes books written especially for children and books annexed from English literature by children.

ENGL 305 The English Novel
★6 (3-0-0). Representative novels by Defoe, Richardson, Fielding, Smollett, Sterne, Austen, Scott, Dickens, Thackeray, Brontë, Hardy, and others.

ENGL 310 Introduction to Bibliography and Methods of Research
★3 (either term, 3-0-0). An examination of the development of printing, textual problems, library organization, bibliography compilation, and manuscript styles and methods.

ENGL 311 History of the Language
★3 (either term, 3-0-0). An analysis of the historical development of the English language, with some study in the prose tradition.

ENGL 312 Applied English Language Studies
★3 (either term, 3-0-0). This course considers the style of poems and prose works of fiction and non-fiction from a linguistic point of view. Prerequisite: ENGL 212 or LING 101 or LING 203, or consent of Department.

ENGL 315 History of English Literary Criticism
★3 (either term, 3-0-0). A survey of the major developments in literary criticism.

ENGL 318 Applied Criticism
★3 (either term, 3-0-0). A study of the practical application of critical principles and methods to English literature.

ENGL 320 Old English Language and Literature
★6 (3-0-0). An introduction to the language and literature of Anglo-Saxon England.

ENGL 321 The Earlier Middle Ages
★3 (either term, 3-0-0). The literature of England from its beginnings to the end of the thirteenth century.

ENGL 322 The Later Middle Ages
★3 (either term, 3-0-0). The literature of fourteenth- and fifteenth-century England, including Chaucer.

ENGL 323 Middle English Literature
★6 (3-0-0). Middle English literature excluding Chaucer. Works will be read in the original language. Note: Not to be taken by students with credit in ENGL 321 or 322.

ENGL 324 Chaucer
★6 (3-0-0). Major works of Chaucer and of selected poets of the fifteenth century.

ENGL 327 Medieval and Tudor Drama
★3 (either term, 3-0-0). English drama to the death of Marlowe.

ENGL 330 The Short Poem in the Renaissance
★3 (either term, 3-0-0). This course will include a study of lyrics and the sonnet.

ENGL 331 The Romance Tradition in Renaissance Literature
★3 (either term, 3-0-0). To include *Utopia, Arcadia,* and *The Faerie Queene.*

ENGL 332 Jonson, Donne, and their Successors
★3 (either term, 3-0-0).

ENGL 337 Elizabethan and Jacobean Drama
★3 (either term, 3-0-0). English drama from 1590 to 1642.

ENGL 338 Shakespeare
★6 (3-0-0). A study of representative plays. Note: Not to be taken by students with credit in ENGL 239.

ENGL 339 Further Studies in Shakespeare
★3 (either term, 3-0-0). Prerequisite: ENGL 338, and either 327 or 337.

ENGL 340 Milton
★6 (3-0-0).

ENGL 341 The Augustan Age
★6 (3-0-0). Representative works by writers fro Restoration and early eighteenth century.

ENGL 343 The Age of Sensibility
★6 (3-0-0). Works of representative writers of th eighteenth century, including the precursors of R ticism.

ENGL 347 Restoration and Eighteenth-Century Drama
★3 (either term, 3-0-0). English drama from 16 1780. Note: Not to be taken by students with cr former ENGL 355, Drama from the Restoration to

ENGL 350 British Romantic Poetry
★3 (either term, 3-0-0). Representative poems Romantic period. Note: Not to be taken by student credit in ENGL 351.

ENGL 351 Poetry and Prose of the Romantic P
★6 (3-0-0). Readings in representative Romantic Note: Not to be taken by students with credit in 350.

ENGL 352 The Earlier Victorian Age
★6 (3-0-0). Representative works of the earlier V ans.

ENGL 353 The Later Victorian Age
★3 (second term, 3-0-0). Representative works later Victorians.

ENGL 355 Studies in Victorian Prose of Thoug
★6 (3-0-0). Representative works by Burke, Carly Mill, Newman, Arnold, Ruskin, Huxley, Butler, and ris.

ENGL 357 Nineteenth-Century Drama
★3 (either term, 3-0-0). Drama in English from Ron cism to Naturalism. Note: Not to be taken by stu with credit in former ENGL 355, Drama from the F ration to 1870.

ENGL 358 American Literature to 1900
★6 (3-0-0). A selection of representative major wr Emphasis on the writers of the American Renaiss especially Poe, Hawthorne, Emerson, Thoreau, Me Whitman, Mark Twain, and Henry James. Note: Not taken by students with credit in former ENGL 358 or 359.

ENGL 359 American Fiction to 1900
★3 (either term, 3-0-0). Representative works. Note to be taken by students with credit in ENGL 358.

ENGL 360 American Literature from 1900
★6 (3-0-0). A selection of representative major wr Note: Not to be taken by students with credit in E 361 or 363.

ENGL 361 Early Twentieth-Century American N
★3 (either term, 3-0-0). Representative works of tw eth-century American novelists to mid-century. Not to be taken by students with credit in ENGL 36

ENGL 362 Later Twentieth-Century American N
★3 (either term, 3-0-0). Representative works of tw eth-century American novelists from mid-century t present. Prerequisite: ENGL 360 or 361.

ENGL 363 Early Twentieth-Century Poetry
★3 (either term, 3-0-0). Representative works of B and American poets to mid-century. Note: Not taken by students with credit in ENGL 360 or 369.

ENGL 364 Later Twentieth-Century Poetry
★3 (either term, 3-0-0). Representative works of B and American poetry from mid-century to the pre Prerequisite: ENGL 360 or 363 or 369.

ENGL 365 Early Twentieth-Century British Nove
★3 (either term, 3-0-0). Representative works of tw eth-century British novelists to mid-century. Note: N be taken by students with credit in ENGL 369.

ENGL 366 Later Twentieth-Century British Nove
★3 (either term, 3-0-0). Representative works of tw eth-century British novelists from mid-century to present. Prerequisite: ENGL 305 or 365 or 369.

ENGL 367 Modern British and American Drama
★6 (3-0-0). Major works by modern British and Amer dramatists. Note: Not to be taken by students with c in ENGL 368.

ENGL 368 Early Twentieth-Century Drama
★3 (either term, 3-0-0). Selected British and Amer plays, from Naturalism to the Theatre of the Absurd. N Not to be taken by students with credit in ENGL 367.

ENGL 369 Early Twentieth-Century British Literature
★6 (3-0-0).Note: Not to be taken by students with cr in ENGL 363 or 365.

NGL 371 Canadian Literature to 1925
6 (3-0-0). A critical and historical study of the literature
English-speaking Canada to 1925. Not to be taken by
udents with credit in former ENGL 384, in ENGL 373,
75, or in *both* former ENGL 386 *and* 387.

NGL 372 Canadian Literature from 1925
6 (3-0-0). A critical and historical study of the literature
English-speaking Canada from 1925 to the present.
ot to be taken by students with credit in former ENGL
84, in ENGL 374, 376, or in *both* former ENGL 386 *and*
87.

NGL 373 Canadian Poetry to 1925
3 (either term, 3-0-0). A critical and historical study of
presentative Canadian poetry in English from colonial
mes to 1925. Not to be taken by students with credit in
NGL 371, or former ENGL 384, or former ENGL 387.

NGL 374 Canadian Poetry from 1925
3 (either term, 3-0-0). A critical and historical study of
presentative Canadian poetry in English from 1925 to
e present. Not to be taken by students with credit in
NGL 372, or former ENGL 384, or former ENGL 387.

NGL 375 Canadian Prose to 1925
3 (either term, 3-0-0). A critical and historical study of
presentative Canadian non-dramatic prose in English
om colonial times to 1925. Not to be taken by students
ith credit in ENGL 371, or former ENGL 384, or former
NGL 386.

NGL 376 Canadian Prose from 1925
3 (either term, 3-0-0). A critical and historical study of
presentative Canadian non-dramatic prose in English
om 1925 to the present. Not to be taken by students
ith credit in ENGL 372, or former ENGL 384, or former
NGL 386.

NGL 377 Modern Canadian Drama
3 (either term, 3-0-0).Selected plays by dramatists of
nglish-speaking Canada.

NGL 380 Commonwealth Literature
6 (3-0-0). Representative works of writers from various
reas of the Commonwealth.

NGL 385 The King James Bible in English Literature
6 (3-0-0). A literary study of selections from the
lebrew Bible (Old Testament) and New Testament of
he King James Bible, and of the influence of the King
ames Bible in English literature.

NGL 388 Folklore in Children's Literature in English
3 (either term, 3-0-0). An examination of the related
elds of folklore and fantasy in children's literature in
nglish. It deals with those elements of folklore, mythol-
gy and legend that have become a traditional part of
hildren's literature and also includes certain modern
daptations and fantasies which have their origins in
nyth and folklore.

NGL 389 Classics of Children's Literature in English
3 (either term, 3-0-0). A representative sampling of
lassics of children's literature in English. As an histori-
al survey it will examine prevailing and changing attitudes
owards children to provide a critical assessment of the
ays in which various authors have succeeded in under-
tanding and pleasing a particular audience.

NGL 390 Women's Literary Tradition
6 (3-0-0). A survey of women's writing in English from
ts earliest period to the present.

NGL 401 Studies in Authors
3 (either term, 3-0-0). Note: Please refer to the note at
he beginning of §44.15.2.

NGL 402 Studies in Genres
3 (either term, 3-0-0). Note: Please refer to the note at
he beginning of §44.15.2.

NGL 403 Studies in Literary Themes
3 (either term, 3-0-0). Note: Please refer to the note at
he beginning of §44.15.2.

NGL 404 Studies in Literary History
3 (either term, 3-0-0). Note: Please refer to the note at
he beginning of §44.15.2.

NGL 411 Advanced Studies in History of the Language
3 (either term, 3-0-0). This course will examine the
rose and poetry of a particular period in English from
he point of view of developments in the English lan-
guage: sounds, words, syntax, spelling, style. Prerequi-
site: ENGL 311, or consent of Department. Note: Please
refer to note at the beginning of §44.15.2.

ENGL 412 Advanced Applied English Language Studies
3 (either term, 3-0-0). This advanced course considers
he style of poems and prose works of fiction and non-
fiction from a linguistic point of view; it will include contemporary essays by linguists on the subject of style. Prerequisite: One of ENGL 212, 312; or consent of Department. Note: Please refer to note at the beginning of §44.15.2.

ENGL 413 Studies in English Language
3 (either term, 3-0-0). Prerequisite: ENGL 311, or consent of Department. Note: Please refer to the note at the beginning of §44.15.2.

ENGL 416 Literary Theory: Studies in Historical Modes
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 417 Literary Theory: Studies in Rhetorical Modes
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 418 Studies in Rhetoric
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 420 Studies in Old English Literature and Language
3 (either term, 3-0-0). Prerequisite: ENGL 320, or the consent of Department. Note: Please refer to the note at the beginning of §44.15.2.

ENGL 423 Studies in Middle English Literature
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 427 Studies in Medieval and/or Tudor Drama
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 434 Studies in 16th and Early 17th-Century Poetry
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 435 Studies in 16th and Early 17th-Century Prose
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 437 Studies in Renaissance Drama
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 444 Studies in Restoration and Eighteenth-Century Poetry
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 445 Studies in Restoration and Eigteenth-Century Prose
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 450 Studies in Romantic Prose
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 451 Studies in Romantic Poetry
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 452 Victorian Poetry: Tennyson, Browning, and Arnold
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 453 Victorian Poetry: Excluding Tennyson, Browning, and Arnold
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 454 Studies in Nineteenth and/or Twentieth-Century Poetry
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 455 Studies in Nineteenth and/or Twentieth-Century Prose
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 456 Dickens
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 460 Studies in American Authors
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 461 Studies in American Literary Movements
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 462 Currents of Thought in American Prose
3 (either term, 3-0-0). Representative works of American writers from Colonial times to the present, illustrating the intellectual milieu. Note: Please refer to the note at the beginning of §44.15.2.

ENGL 463 Studies in 20th-Century British Authors
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 464 Studies in 20th-Century British Literary Movements
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 465 National Literary Movements of the British Isles, excluding England
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 467 Further Studies in Modern Drama
3 (either term, 3-0-0). Course prerequisite: One of ENGL 367, 368, or 377; or consent of Department. Note: Please refer to the note at the beginning of §44.15.2.

ENGL 468 Contemporary Drama
3 (either term, 3-0-0). Selected plays of British and American dramatists from mid-century to the present. Note: Please refer to the note at the beginning of §44.15.2.

ENGL 471 Experimental Writing in Canada
3 (either term, 3-0-0). Representative works of writers of English-speaking Canada. Course prerequisite: Six units of course weight in Canadian Literature or consent of Department. Note: Please refer to the note at the beginning of §44.15.2.

ENGL 474 Studies in Canadian Poetry
3 (either term, 3-0-0). Course prerequisite: Six units of course weight in Canadian Literature; or consent of Department. Note: Please refer to the note at the beginning of §44.15.2.

ENGL 475 Studies in Canadian Prose
3 (either term, 3-0-0). Course prerequisite: Six units of course weight in Canadian Literature, or consent of Department. Note: Please refer to the note at the beginning of §44.15.2.

ENGL 477 Studies in Canadian Drama
3 (either term, 3-0-0). Course prerequisite: Six units of course weight in Canadian Literature; or consent of Department. Note: Please refer to the note at the beginning of §44.5.2.

ENGL 478 Regional Literature of Canada: Prairie Literature
3 (either term, 3-0-0). Literature of the prairie provinces, to be examined primarily as a body of related texts with a place in national and international literary developments, but also in relation to the geographical, historical, and cultural distinctiveness of the region and to changing conceptions of regionalism in Canadian literature. Course prerequisite: Six units of course weight in Canadian literature; or the consent of Department. Note: Not open to students with credit in former ENGL 470, Regional Literature of Canada dealing with the prairie provinces. Note: Please refer to the note at the beginning of §44.15.2.

ENGL 479 Regional Literature of Canada: Other Regions
3 (either term, 3-0-0). Representative works of writers of English-speaking Canada, excluding the prairie provinces. Note: Not open to students with credit in former ENGL 470, Regional Literature of Canada dealing with the non-prairie provinces. Please refer to the note at the beginning of §44.15.2.

ENGL 480 Commonwealth Literature: National Literatures
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 481 Commonwealth Literature: Comparative Studies
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 483 Studies in the Literature of Popular Culture in English
3 (either term, 3-0-0). Prerequisite: One of ENGL 287, 388, or 389; or consent of Department. Note: Please refer to the note at the beginning of §44.15.2.

ENGL 485 Biblical Topics in English Literature
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 487 Further Studies in Children's Literature
3 (either term, 3-0-0). Course prerequisite: One of ENGL 287, 388, or 389, or consent of Department. Note: Please refer to the note at the beginning of §44.15.2.

ENGL 490 Special Studies in the Literature of Women
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

ENGL 493 Feminist Criticism and Theory
3 (either term, 3-0-0). Note: Please refer to the note at the beginning of §44.15.2.

44.15.3 Writing Courses

ENGL 296 Introduction to Creative Writing
6 (3-0-0). Lectures and workshops in which the student will be required to write both poetry and fiction. Prerequisite:

ENGL 101, and consent of the instructor(s). Note: not to be taken by students with credit in former ENGL 376, Introductory Creative Fiction, or former ENGL 377, Introductory Creative Poetry. A fee of $25 per student will be levied to pay for the photocopying of student work to be shared in class.

ENGL 298 Introductory Non-fictional Writing
★6 (3-0-0). The purpose of this course is to increase the student's ability to write clear non-fiction prose. The study of models of prose style will be central, combined with frequent practice in writing on the basis of such models. Note: Not to be taken by students with credit in ENGL 299 or 399.

ENGL 394 Intermediate Creative Writing: Poetry
★3 (either term, 3-0-0). Prerequisite: One of ENGL 296 or 298, or former ENGL 377, Introduction to Creative Writing: Poetry, and consent of the instructor.

ENGL 395 Intermediate Creative Writing: Fiction
★3 (either term, 3-0-0). Prerequisite: One of ENGL 296 or 298 or former ENGL 376, Introduction to Creative Writing: Fiction, and consent of the instructor. A fee of $25 per student will be levied to pay for the photocopying of student work to be shared in class.

ENGL 398 Intermediate Non-Fictional Writing
★3 (either term, 3-0-0). Prerequisite: One of ENGL 296 or 298.

ENGL 494 Creative Writing: Advanced Poetry
★6 (3-0-0). Prerequisite: ENGL 394 and consent of the instructor. Note: Please refer to note at the beginning of §44.15.2.

ENGL 495 Creative Writing: Advanced Fiction
★6 (3-0-0). Course prerequisite: ENGL 395, and consent of the instructor. A fee of $25 per student will be levied to pay for the photocopying of student work to be shared in class. Note: Please refer to the note at the beginning of §44.15.2.

ENGL 498 Advanced Non-fictional Writing
★6 (3-0-0). Prerequisite: ENGL 398 or former ENGL 309, Expository Writing. Note: Please refer to the note at the beginning of §44.15.2.

44.15.4 Honors Courses

ENGL 510 Seminar, Second-Year Honors English
★2 (0-1s-0).

ENGL 511 Directed Reading I Second-Year Honors English.
★6 (3-0-0).

ENGL 520 Seminar, Third-Year Honors English
★2 (0-1s-0).

ENGL 521 Directed Reading II Third-Year Honors English
★6 (3-0-0).

ENGL 530 Seminar, Fourth-Year Honors English
★2 (0-1s-0).

ENGL 531 Directed Reading III Fourth-Year Honors English.
★6 (3-0-0).

ENGL 532 Tutorial — Fourth-Year Honors English
★6. In the third year of the program, the Honors student, in consultation with the Department, will arrange for a literary project to be pursued under the guidance of a member of the Department for the ensuing summer and winter. The project will involve study of some problems having to do with such matters as technique, genre, criticism, or theme.

Note: For graduate courses in English, refer to §204.28.5. of this Calendar.

44.15.5 Service Courses

Note: Senior courses have as prerequisite ENGL 101, or 104 and 105.

ENGL 108 Introduction to Language and Literature
★3 (first term, 3-0-0). This course combines formal instruction in writing with a study of the essay and the short story. One-half of class time will be devoted to writing instruction. This course may be followed only by ENGL 109. Note: Not to be taken by students in Arts and Education. This course will be offered by arrangement with client faculties.

ENGL 109 Continuing Study of Language and Literature
★3 (second term, 3-0-0). A study of poetry, drama and the novel, combined with instruction designed to refine the student's writing style and rhetorical skills. One-third of class time will be devoted to writing instruction. Prerequisite: ENGL 108. Note: Not to be taken by students in Arts and Education. This course will be offered by arrangement with client faculties.

ENGL 199 Essentials of Writing for Engineering Students
★3 (either term, 3-0-0). This course is designed to develop the student's ability to write the narrative, descriptive, expository, and persuasive prose fundamental to all written communication. Instruction and practice will be integrated with the study of prose models drawn from modern essayists. A review of basic grammar will be included. Note: Restricted to students in the Faculty of Engineering only.

ENGL 299 Essay Writing for Education Students
★3 (either term, 3-0-0). This course, designed to increase the student's ability to write effective essays, will emphasize the study of grammar, punctuation, and sentence and paragraph structure. The study of models of prose style will be integrated with frequent practice in writing. ENGL 299 is not a remedial course. Note: Restricted to students in the Faculty of Education; not to be taken by students with credit in ENGL 298.

ENGL 399 Advanced Essay Writing for Education Students
★3 (either term, 3-0-0). This course will require the advanced study and writing of essay forms, with emphasis on the preparation of the longer paper. Prerequisite: ENGL 299, or consent of Department. Note: Restricted to students in the Faculty of Education; not to be taken by students with credit in ENGL 298.

44.16 Film Studies

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
INT D 300	F ST 200	INT D 312	F ST 312
INT D 305	F ST 205	INT D 313	F ST 313
INT D 310	F ST 310	INT D 314	F ST 314
INT D 311	F ST 311	INT D 401	F ST 401

F ST 200 Introduction to the Study of Film
★6 (3-0-3). A survey of major areas in film studies, emphasizing history, theory, film language, and the study of individual masterpieces. Prerequisite: Six units of course weight junior English courses, or ART H 101, and 102, or C LIT 100 or 301/302, PHIL 140, or equivalent. Not open to students with credit in F ST 205.

F ST 205 The Fundamentals of Film
★3 (either term, 3-0-3). Analysis of film language in terms of the primary tools of the filmmaker's art and of their relation to visual communication and aesthetic quality. Prerequisite: As for F ST 200. Not open to students with credit in F ST 200.

F ST 310 Canadian Film
★3 (either term, 3-0-3). Major trends in both English and French Canadian film, such as documentary, feature film, animation, and experimental film. Prerequisite or corequisite: F ST 200 or 205.

F ST 311 The Hollywood Film I: Cultural Models, Narrative Strategies and the History of the Industry
★3 (either term, 3-0-3). A history of the American commercial film industry together with a consideration of selected Hollywood films as social cultural and aesthetic artifacts. Prerequisite or corequisite: F ST 200 or 205.

F ST 312 The Hollywood Film II: Genre
★3 (either term, 3-0-3). The narrative patterns and cultural mythology of well defined genres (e.g. the Western, the Crime Film, the 'Women's Picture', the Horror Film). Prerequisite or corequisite: F ST 200 or 205.

F ST 313 World Cinema Since 1945
★3 (either term, 3-0-3). Developments in areas such as Italian Neo-Realism, the French New Wave, Japanese cinema, German film of the 1970s. Prerequisite or corequisite: F ST 200 or 205.

F ST 314 Film and the Representation of Women
★3 (either term, 3-0-3). An examination of the ways in which the representation of women has contributed to both the construction and the dismantling of gender stereotypes of women in the twentieth century. Prerequisite or corequisite: F ST 200 or F ST 205.

F ST 330 Documentary Film
★3 (either term, 3-0-3). Theory and history of the documentary film, with emphasis on Flaherty, the Documentary Movement in Britain, the National Film Board of Canada, and recent developments in the field. Prerequisite or corequisite: F ST 200 or F ST 205.

F ST 333 Experimental Film
★3 (either term, 3-0-3). Avant-garde, abstract and structural film. The history and changing conceptions of experimental film, with examples from the silent era to the present. Prerequisite or corequisite: F ST 200 or F ST 205.

F ST 352 Film and Other Arts
★3 (either term, 3-0-3). The questions of film as composite art form. Relation of film to literature, drama, music, and the visual arts. The problem of adaptation. Prerequisite or corequisite: F ST 200 or F ST 205.

F ST 353 Film and Television
★3 (either term, 3-0-3). Independence and interdependence of film and television as visual media, cultural institutions and industries. Differences in technology and presentation, and their effects on film and television content and aesthetics. Prerequisite or corequisite: F ST 200 or F ST 205.

F ST 401 Film Theory and Criticism I
★3 (either term, 3-0-0). Readings in film theory. The history of film theory, and concentration on developments in structuralist/semiotic, marxist, feminist, and psychoanalytic film theory. Prerequisite: F ST 200 or F ST 205 and one F ST 300-level course or consent of the Film Studies program.

F ST 402 Film Theory and Criticism II
★3 (either term, 3-0-3). Application of film theory to 'test case' films, featuring analysis of selected films using the tools and assumptions of specific theories. Prerequisite: F ST 200 or F ST 205 and one F ST 300-level course or consent of the Film Studies program.

F ST 404 Film Narrative
★3 (either term, 3-0-3). The elements of visual/auditory storytelling, with emphasis on the structure and convention of dominant narrative types, together with a consideration of alternative narrative forms. Prerequisite: F ST 200 or F ST 205 and one F ST 300-level course or consent of the Film Studies program.

F ST 410 Filmmakers
★3 (either term, 0-3s-3). Concentrated study of the works of individual filmmakers. The course will deal with one to three important filmmakers through representative films. Prerequisite: F ST 200 or F ST 205 and one F ST 300-level course or consent of the Film Studies program.

F ST 412 Topics in Film Studies
★3 (either term, 0-3s-3). A seminar-based examination of specialized topics in film. Prerequisite: F ST 200 or F ST 205 and one F ST 300-level course or consent of the Film Studies program.

F ST 414 Topics in Women and Film
★3 (either term, 0-3s-3). This course explores in depth one aspect of women's contribution to and/or representation in film. Topics may include women and the silent film; the women's film of the 1940s; avant-garde feminist film-making; examination of the 'oeuvre' of individual women directors. Prerequisite: F ST 200 or F ST 205 and one F ST 300-level course or consent of the Film Studies program.

44.17 French and French-Canadian Languages and Literatures

Department of Romance Languages

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
FREN 200	FREN 150	FREN 304	FREN 244
FREN 202	FREN 152	FREN 305	FREN 245
FREN 205	FREN 155	FREN 308	FREN 258
FREN 206	FREN 156	FREN 311	FREN 246
FREN 230	FREN 158	FREN 320	FREN 300
FREN 301	FREN 250	FREN 340	FREN 350
FREN 302	FREN 222	FREN 408	FREN 358
FREN 303	FREN 223	FR CA 332	FR CA 222
		FR CA 333	FR CA 223

44.17.1 French Language and Literature

Junior Courses

Note: Only one of FREN 150 or 152 may be taken for credit.

FREN 100 Beginners' French
★6 (5-0-0). Designed to enable students to begin their study of French at the university level. Note: Not open to students with matriculation in French, ie. French 30 or equivalent. Normally, students will go from FREN 100 to FREN 150.

FREN 150 First-Year University French
★6 (3-0-2). Intensive training in spoken and written French, including grammar, composition, and literature. Prerequisite: French 30 or equivalent. Note: Not open for credit to students having credit or registered in Faculté Saint-Jean FRANC 110.

FREN 152 Intermediate First-Year University French
★6 (3-0-1). Designed for Francophone students and for students having French 31. Prerequisite: French 31 or equivalent. Note: Not open for credit to students having credit or registered in Faculté Saint-Jean FRANC 110.

FREN 155 Basic Skills for Reading French
★3 (either term, 3-0-0). A basic course in French grammar and literature designed to develop skills in reading French. Language of instruction is English. Prerequisite: French 30 or equivalent. Note: Not accepted to meet the requirements in a principal area of concentration.

FREN 156 French Reading Comprehension
★3 (either term, 3-0-0). An intermediate course in French grammar and literature. Language of instruction is English. Prerequisite: FREN 155 or consent of Department. Note: Not accepted to meet the requirements in a principal area of concentration.

Senior Courses

FREN 222 Aspects of French Civilization and Culture I
★3 (first term, 3-0-0). French civilization from the Middle Ages to the Revolution as seen through a selection of short representative readings. This course aims at improving the student's oral and written command of French and at providing an introduction to major trends in the development of French thought and society. Prerequisite: FREN 150 or 152 or consent of Department. Not open to students having credit or registered in Faculté Saint-Jean FRANC 324.

FREN 223 Aspects of French Civilization and Culture II
★3 (second term, 3-0-0). French civilization and culture since the Revolution as seen through a selection of short, representative readings. The course aims at improving the student's oral and written command of French and at providing an introduction to major trends in the evolution of French thought and society. Prerequisite: FREN 150 or 152 or consent of Department. Not open to students having credit or registered in Faculté Saint-Jean FRANC 324.

FREN 244 Readings in French Literature before 1715
★3 (either term, 3-0-0). Selected periods and major works in French literature. The works are studied in French and the course is given in English. Prerequisite: FREN 150, or 152, or 156. Note: Not accepted to meet the requirements in a principal area of concentration.

FREN 245 Readings in French Literature after 1715
★3 (either term, 3-0-0). Selected periods and major works in French literature. The works are studied in French and the course is given in English. Prerequisite: FREN 150, 152 or 156. Note: Not accepted to meet the requirements in a principal area of concentration.

FREN 246 Readings from French Women Writers
★3 (either term, 3-0-0). Women's writing in France. An overview of problems posed by and dealt with in women's literature of different historical periods. The works are studied in French but the course is given in English. Prerequisite: FREN 150, 152 or 156. Note: Not acceptable to meet concentration requirements in French.

FREN 250 Second-Year University French
★6 (3-0-2). Designed to perfect written and oral knowledge of French. The course aims at achieving adequate fluency to enable students to proceed in literature, translation and/or composition courses. Prerequisite: FREN 150 or 152 or consent of Department. Note: May not be taken concurrently for credit with either FREN 350 or FREN 258 except by consent of Department.

FREN 258 Second-Year French for Honors Students
★6 (3-0-0). Intensive language work in written and oral French: grammar, varied written exercises, reading for comprehension and explication; varied oral exercises. The two laboratory hours will be devoted to a historical survey of French culture and civilization. Prerequisite: Consent of Department. Note: May not be taken concurrently for credit with FREN 250 except by consent of Department.

FREN 300 Introduction to French Literary Studies
★6 (3-0-0). This course illustrates certain key concepts in modern literary studies through the analysis of carefully chosen texts. Prerequisite: FREN 150 or 152 or consent of Department.

FREN 330 Introduction to the Close Study of French Literary Texts
★3 (either term, 3-0-0). Note: Not open for credit to students having credit or registered in Faculté Saint-Jean FRANC 325. Prerequisite: FREN 150 or 152 or consent of Department.

FREN 350 Composition and Grammar
★6 (3-0-0). Development of writing skills through practice in prose composition. Intensive study of grammar. Note: Not open for credit to students having credit or registered in Faculté Saint-Jean FRANC 320 or 321. May not be taken concurrently for credit with FREN 250 except by consent of Department. Prerequisite: FREN 152 and 250 or consent of Department.

FREN 358 Third-Year French for Honors Students
★6 (3-0-0). Intensive language work in written and oral French: advanced grammar, composition and oral exercises. Prerequisite: FREN 258 or consent of Department. Note: Not open for credit to students having credit or registered in Faculté Saint-Jean CA FR 420.

FREN 360 Introduction to French Literature of the Eighteenth Century
★3 (either term, 3-0-0). Not open for credit to students having credit or registered in Faculté Saint-Jean FRANC 326. Prerequisite: FREN 152 or 250 or consent of Department.

FREN 370 Introduction to French Literature of the Nineteenth Century
★3 (either term, 3-0-0). Note: Not open for credit to students having credit or registered in Faculté Saint-Jean FRANC 327. Prerequisite: FREN 152 or 250 or consent of Department.

FREN 380 Introduction to French Literature of the Twentieth Century
★3 (either term, 3-0-0). Note: Not open for credit to students having credit or registered in Faculté Saint-Jean FRANC 328. Prerequisite: FREN 152 or 250 or consent of Department.

FREN 400 Contrastive Stylistics: French-English
★6 (3-0-0). A systematic comparison of the main stylistic patterns of the two languages, and an analysis of their differences. Prerequisite: R LIN 375 or consent of Department.

FREN 402 Aspects of French Civilization and Culture III
★3 (first term, 3-0-0). A survey of the society and culture of contemporary France designed to complement the study of French literature and to improve the student's oral and written command of the French language. Prerequisite: Any 200- or 300-level French or French-Canadian course except the 200- or 300-level reading courses.

FREN 403 Aspects of French Civilization and Culture IV
★3 (second term, 3-0-0). A study of aspects and problems of contemporary French civilization designed to complement the study of French literature and to improve the student's oral and written command of the French language. Prerequisite: Any 200- or 300-level French or French-Canadian course except the 200- or 300-level reading Courses .

FREN 415 Introductory Exercises in Translation: French Into English
★3 (either term, 3-0-0). Prerequisite: ENGL 101, and any 200- or 300-level French or French-Canadian course except the 200- or 300-level reading courses.

FREN 416 Introductory Exercises in Translation: English Into French
★3 (either term, 3-0-0). Prerequisite: Any 200- or 300-level French or French-Canadian course except the 200- or 300-level reading courses.

FREN 426 Topics in French Literary Studies
★3 (either term, 3-0-0). This course studies in-depth a limited number of selected topics in French literary studies and their relation to textual analysis. Prerequisite: FREN 300 or 258 or consent of Department.

FREN 430 Introduction to Medieval French Literature
★3 (either term, 3-0-0). Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses.

FREN 431 Topics in Medieval French Literature
★3 (second term, 3-0-0). Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses.

FREN 440 Introduction to French Literature of the Renaissance
★3 (either term, 3-0-0). Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses.

FREN 441 Topics in French Literature of the Renaissance
★3 (second term, 3-0-0). Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses.

FREN 450 Introduction to French Literature of the Seventeenth Century
★3 (either term, 3-0-0). Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses.

FREN 451 Topics in French Literature of the Seventeenth Century
★3 (second term, 3-0-0). Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses.

FREN 461 Topics in French Literature of the Eighteenth Century
★3 (second term, 3-0-0). Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses.

FREN 471 Topics in French Literature of the Nineteenth Century
★3 (either term, 3-0-0). Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses.

FREN 481 Topics in French Literature of the Twentieth Century
★3 (either term, 3-0-0). Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses.

FREN 490 Women Writers in France
★3 (either term, 3-0-0). Women's writing in France. Specific historical periods and texts in this course may vary from year to year. Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses.

FREN 499 Directed Reading
★3 (either term, 3-0-0) or ★6 (3-0-0). Designed to meet the needs of individual students. Prerequisite: Consent of Department.

FREN 501 Teaching Strategies for the Instruction of French
★0

FREN 515 Intermediate Exercises in Translation: French into English
★3 (either term, 3-0-0). Prerequisite: FREN 415. Prerequisite or corequisite: FREN 400.

FREN 516 Intermediate Exercises in Translation: English into French
★3 (either term, 3-0-0). Prerequisite: FREN 416. Prerequisite or corequisite: FREN 400.

FREN 520 Honors Tutorial
★3 (3-0-0). For fourth-year Honors students. A single-term course offered over the full session. Prerequisite: Consent of Department.

FREN 523 Studies in French Literary Movements
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 525 Studies in Forms and Genres in French Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 526 Studies in French Literary Theory and Criticism
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 528 Studies in Women's Literature in French
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 529 Studies in Francophone Literature Outside France
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 531 Studies in Medieval French Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 542 Studies in the French Renaissance
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 551 Studies in Seventeenth-Century French Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 560 Studies in Eighteenth-Century French Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 571 Studies in the Nineteenth-Century French Novel
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 572 Studies in Nineteenth-Century French Poetry and Theatre
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 573 Studies in Nineteenth-Century French Literary Movements
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 575 Studies in Nineteenth-Century French Thought
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 580 Studies in Twentieth-Century French Theatre
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 581 Studies in the Twentieth-Century French Novel
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 582 Studies in Twentieth-Century French Poetry
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 583 Studies in Twentieth-Century French Literary Movements
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 585 Studies in Twentieth-Century French Thought
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 599 Directed Reading
★3 (either term, 3-0-0) or ★6 (3-0-0). Designed to meet the needs of individual Honors or Graduate students. Prerequisite: Consent of Department.

Note: For graduate courses in French at the 600-level, refer to §204.74.4 of this Calendar.

44.17.2 Service Courses

FREN 309 Intensive Intermediate French
★3 (either term, 3-0-2). Intensive language work in written and oral French grammar, varied written exercises, reading for comprehension and explication, varied oral exercises. Prerequisite: Consent of Department. Note: This course is offered only through Intersession's French Immersion in Quebec program.

FREN 317 Commercial French
★3 (either term, 3-0-0). An introduction to business French in Quebec and France, especially designed for students with a background in business. Prerequisite: Any 200- or 300-level French or French-Canadian course except the 200- or 300-level reading courses. Note: Normally restricted to Faculty of Business students. Arts students require permission of the Department to take this course as an option. This course will not fulfill the Language other than English requirement of the BA degree.

FREN 318 Legal French
★3 (either term, 3-0-0). An introduction to legal French, especially designed for students in the Faculty of Law. Prerequisite: Any 200-level French or French-Canadian course except the 200-level reading courses. Note: Normally restricted to Faculty of Law students. This course will not fulfill the Language other than English requirement of the BA degree.

FREN 390 Introduction to Children's Literature in French
★3 (either term, 3-0-1). A survey of children's literature in French especially designed for future teachers of French. Prerequisite: Any 200- or 300-level French or French-Canadian courses except the 200- or 300-level reading courses. Note: Normally restricted to Faculty of Education students. Arts students require permission of the Department to take this course. This course will not fulfill the Language other than English requirement of the BA degree.

44.17.3 French-Canadian Language and Literature

Senior Courses

FR CA 222 Aspects of French-Canadian Culture and Society I
★3 (either term, 3-0-0). Study of the development of Quebec's society and culture from 1800 to 1930 with emphasis on ideologies, social history, and all aspects of artistic expression. Prerequisite: FREN 150 or 152 or consent of Department. Note: Not open to students having credit or registered in Faculté Saint-Jean CA FR 320.

FR CA 223 Aspects of French-Canadian Culture and Society II
★3 (either term, 3-0-0). Study of Quebec's society and culture from 1930 to the present with emphasis on the changing patterns of society, the development of ideologies, and all aspects of artistic expression. As a complementary component, this course will also study the large francophone community outside Quebec. Prerequisite: FREN 150 or 152 or consent of Department. Note: Not open to students having credit or registered in Faculté Saint-Jean CA FR 322.

FR CA 300 An Introduction to French-Canadian Literature.
★3 (either term, 3-0-0). This course will survey the literature of French Canada from its origins to the present. Prerequisite: FREN 152 or 250 or consent of Department. Note: Formerly part of FR CA 353 and 354. Note: Not open to students with credit in FR CA 353 or 354. Not open to students having credit or registered in Faculté Saint-Jean CA FR 350.

FR CA 330 Textual Approaches to French-Canadian Literature
★3 (either term, 3-0-0). Introduction to problems of literary analysis using a small number of representative texts. Prerequisite: FREN 152 or 250 or consent of Department.

FR CA 421 Topics in Quebec Theatre
★3 (either term, 3-0-0). Study of selected topics in Quebec theatre. Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses. Note: Not open to students with credit in FR CA 466. Not open to students having credit or registered in CA FR 466.

FR CA 422 Topics in Quebec Poetry
★3 (either term, 3-0-0). Study of selected topics in Quebec poetry. Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses. Note: Not open to students having credit or registered in CA FR 465. Not open to students with credit in FR CA 465.

FR CA 423 The Quebec Novel before 1960
★3 (either term, 3-0-0). Readings in the 20th century French-Canadian novel before 1960. Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses. Note: Not open to students having credit or registered in CA FR 451.

FR CA 424 The Quebec Novel since 1960
★3 (either term, 3-0-0). Readings in the Quebec novel after the Quiet Revolution. Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses.

FR CA 428 Women's Writing in Quebec
★3 (either term, 3-0-0). Readings of works by women and study of the relation between women and writing. Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses.

FR CA 429 French-Canadian Literature Outside Quebec
★3 (either term, 3-0-0). Study of major writers in French Canada outside Quebec, e.g. Maillet, Roy, Lavallee, Bugnet. Prerequisite: Any French or French-Canadian literature course except the 200- or 300-level reading courses.

FR CA 471 Topics in Nineteenth-Century French-Canadian Literature
★3 (either term, 3-0-0). Study of the major literary expression of the period. Prerequisite: Any French or French-Canadian literature course except the 200- or 300- level reading courses. Note: Not open to students having credit or registered in CA FR 450.

FR CA 499 Directed Reading
★3 (either term, 3-0-0) or ★6 (3-0-0). Designed to meet the needs of individual students. Prerequisite: Any French or French-Canadian course except the 200 or 300- level reading courses. Note: Not open for credit to students having credit or registered in CA FR 499.

Honors and Graduate Courses

FR CA 525 Studies in Forms and Genres in Quebec Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Study of selected forms and/or genres in Quebec literature. Prerequisite: Consent of Department.

FR CA 526 Studies in Quebec Literary Theory and Criticism
★3 (either term, 3-0-0) or ★6 (3-0-0). Study of selected aspects of literary theory and/or criticism in Quebec. Prerequisite: Consent of Department. Note: Not open to students with credit in FR CA 501.

FR CA 527 Literature and Society in Quebec
★3 (either term, 3-0-0) or ★6 (3-0-0). Study of selected aspects of the relationship between literature and society in Quebec. Prerequisite: Consent of Department.

FR CA 584 Studies in the Literature of the Quiet Revolution
★3 (either term, 3-0-0) or ★6 (3-0-0). Study of selected texts from Quebec literature of the 1960s. Prerequisite: Consent of Department.

FR CA 585 Studies in Quebec Literature from 1970 to the Present
★3 (either term, 3-0-0) or ★6 (3-0-0). Study of selected aspects of contemporary Quebec literature. Prerequisite: Consent of Department.

FR CA 599 Conference Course
★3 (either term, 3-0-0) or ★6 (3-0-0). A detailed study a major author, genre or literary question. Prerequisi Consent of Department.

Note: For additional courses related to Fren and French-Canadian, see Romance Linguistics in 44. and Romance Literatures in §44.37.

Note: For graduate courses in French-Canadi at the 600-level, refer to §204.74.4 of this Calendar.

44.18 Geography

The following table lists renumbered courses effecti 1990-91:

Old	New	Old	New
GEOG 250	GEOG 150	GEOG 381	GEOG 281
GEOG 251	GEOG 151	GEOG 382	GEOG 282
GEOG 322	GEOG 222	GEOG 385	GEOG 285
GEOG 344	GEOG 244	GEOG 448	GEOG 348
GEOG 350	GEOG 250	GEOG 449	GEOG 349
GEOG 360	GEOG 260	GEOG 458	GEOG 358
GEOG 364	GEOG 264	GEOG 553	GEOG 453
GEOG 367	GEOG 267		

Note: Descriptions of GEOG 130/131 and oth geography courses considered to be science cours will be found in the Faculty of Science section of t Calendar (see §194.12).

Note: Students are responsible for their o accommodation and meal expenses for GEOG 4 which involves an overnight field trip.

Courses in cartography and meteorology offer within the Geography Department will be found in §19 and §194.21 of this Calendar.

44.18.1 Junior Courses

GEOG 150 Spatial Organization of Human Activity
★3 (either term, 3-0-0). The search for order throu analysis of relative location, spatial interaction and sp tial organization of human activities; geographical the ries and techniques.

GEOG 151 Introduction to Cultural Geography
★3 (either term, 3-0-0). The significance of hum distribution on the earth. Man's relation to the physi environment; world population problems; cultural patter in the world.

44.18.2 Senior Courses

No first year students, regardless of their facul will be admitted to 300-level courses. Only third a fourth year students, regardless of their faculty, will admitted to 400-level courses.

GEOG 222 Research Methods in Human Geograph
★3 (second term, 3-0-2). Introduction to collection a analysis of socioeconomic data. Research design a sampling procedures. Special emphasis on observ tional methods, social surveys, impact assessments a futurecasting. Statistical analysis of data, propos preparation and report writing. Fieldwork required. Pr requisite: GEOG 150, 151, 220.

GEOG 250 Introduction to Economic Geography
★3 (either term, 3-0-0). Analysis of the locational ch acteristics of economic activities throughout the wor The significance of location and spatial arrangeme with respect to the relationships between geography a economics. Prerequisite: GEOG 150 or a course economics.

GEOG 267 Resources of the Developing World I
★3 (first term, 3-0-0). A study of the physical nature resources of the developing world; man's percepti and management of land, soil and water resources developing countries.

GEOG 281 Geography of the City
★3 (first term, 3-0-0). Origin and spread of urb settlement; problems arising from the growth and fo of metropolitan areas and inter-city systems.

GEOG 282 Geography of Urban Canada
★3 (second term, 3-0-0). Spatial aspects of urb development in Canada with particular reference current research and literature.

GEOG 335 Contemporary Alberta: A Geographical Perspective
★3 (either term, 3-0-0). An examination of contempora Alberta focusing on the spatial aspects of regior organization and associated rapid change, notab metropolitan growth, urban spill-over, small town dev opment, and rural readjustment.

GEOG 340 Regionalization in Canada
★3 (either term, 3-0-0). The regional organization of Canadian life; the influence of variation in resources, geographical location, population, urbanization, industrialization, ethnic presence, and external relations in giving rise to regional differentiation in contemporary Canada.

INT D 346 Introduction to Eastern Europe and the Soviet Union
★6 (3-0-0). An interdisciplinary introduction to the study of the socialist system with special reference to the Soviet Union and East Europe. (Offered jointly by the Departments of Slavic and East European Studies, Comparative Literature, Economics, Geography, History, Political Science, Sociology.) [Slavic and East European Studies] Note: This course will not fulfill the Language other than English requirement of the BA degree.

GEOG 349 Western Canada
★3 (either term, 3-0-0). Resources, patterns of development, and regions of Western Canada. Emphasis on the developed parts of the Prairie Provinces and British Columbia. Prerequisite: Consent of the instructor.

GEOG 355 Population Geography of Canada
★3 (either term, 3-0-0). Spatial patterns and changes in Canadian populations; differences and similarities in density, structure, migration, between provinces and regions. Urban-rural contrasts.

GEOG 359 Introduction to Behavioral Geography
★3 (second term, 3-0-0). Decision making in a spatial context. Responses to perceived social and physical environments.

GEOG 366 Water Resources in Developing Countries
★3 (either term, 3-0-0). The role of water in developing countries, especially in Asia, South America and Africa. Present and projected water requirements, demand and use, rural and urban supplies, quality, health, sanitation and decision-making.

GEOG 369 Resources of the Developing World II
★3 (second term, 3-0-0). Man's perception and management of plant, animal, mineral and cultural resources in developing countries; patterns of commerce among selected countries; modern and historical significance of strategic location of certain Third World countries. Note: Formerly part of GEOG 444.

GEOG 370 Political Geography
★3 (first term, 3-0-0). Origins and evolution of political geography and geopolitics; spatial aspects of the development of political territories, their boundaries and internal structures, state resources, natural, political and ethnic boundaries, international geopolitical relationships.

GEOG 372 Spatial Dimensions of Public Policy
★3 (either term, 3-0-0). The spatial impact of (Canadian) public policies concerning problems in natural resource development, water transfer, public facility location, annexation and rural land loss, recreational space, environmental protection, electoral redistricting. Prerequisite: Consent of the instructor.

GEOG 384 Settlement Geography
★3 (first term, 3-0-0). Materials and forms of shelter in the geographic landscape, patterns of dispersed and agglomerated settlement (historical and current), including the significance of survey systems and cultural traditions. Case studies from the world generally and particularly from Canada.

GEOG 389 Introduction to Urban Planning
★3 (first term, 3-0-0). Planning theories and concepts of the Twentieth Century; practical applications in various parts of the world. Note: As a first course in the field of planning, GEOG 389 is open to senior students from a variety of disciplines, including Recreation Administration, Survey Science, Geography, Sociology, pre-Architecture, Economics, Political Science, Business and Engineering. Note: Not open to students with credit in GEOG 488. Formerly GEOG 488.

GEOG 406 Interpreting the Cultural Landscape
★3 (either term, 3-0-0). An examination of selected landscapes created by North Americans, organized so as to lead to an interpretative theory of meaning in landscape. Prerequisite: Any senior course in the Faculty of Arts. Note: Not open to students with credit in GEOG 341.

GEOG 424 Resource Conservation
★3 (second term, 3-0-0). Conservation and modern environmentalism as frameworks for describing, understanding, and coping with problems of resource scarcity and environmental quality. Prerequisite: Consent of the instructor.

GEOG 450 Manufacturing Geography
★3 (either term, 3-0-0). A systematic survey of raw materials, markets, transportation, and other locational factors in their effect on patterns of manufacturing. Manufacturing location theory and empirical evidence on location decisions. Prerequisite: A 300-level Geography course.

INT D 451 Recreation Geography
★3 (either term, 3-0-0). Geographic research on outdoor recreation; behavioral-spatial approaches to participation and conflict in resource use, social and ecological carrying capacity, recreation space management. Prerequisite: Consent of the instructor. (Offered jointly by the Departments of Geography and Recreation and Leisure Studies). [Geography].

GEOG 453 Special Research Problems I
★6 (3-0-0). Prerequisite: A 300-level Geography course.

GEOG 481 Urban Geography
★3 (either term, 3-0-0). The geographer's approach to the study of urban phenomena; social and physical configurations; process and change within the urban areas; urban goals and attitudes. Prerequisite: Consent of the instructor.

GEOG 482 Field Methods in Urban Geography
★3 (second term, 3-0-0). Introduction to such techniques as questionnaire and interview surveys, trade area and economic base analysis, land use and other intra-city studies, the use of mapping techniques in these analyses; and their application to urban planning. Projects will be included. Prerequisite: GEOG 389, 481, or consent of instructor.

GEOG 484 Geography of Retailing
★3 (either term, 3-0-0). Considerations in geography's theoretical and empirical contributions to understanding and analyzing the location and functioning of retail and service outlets. Prerequisite: A course in urban geography, or consent of the instructor.

GEOG 489 Physical Planning of the Canadian City
★3 (second term, 3-0-0). The impact of physical planning concepts and practice on the Canadian city; special reference to Alberta. Prerequisite: GEOG 389 or its equivalent.

For graduate courses in Geography, refer to §204.33.5 of this Calendar.

44.18.3 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department and/or the University timetable.

GEOG 100 General Geography
★6 (3-0-0). A survey course covering various aspects of Geography, including the physical, human, and regional. Note: GEOG 100 and 130/131 may not both be offered for credit in the BA program. Not intended for students who plan to major in Geography. GEOG 100 may not be offered for credit with any other 100-level course in Geography.

GEOG 242 Contemporary Latin America
★3 (first term, 3-0-0). Latin America as a developing world region. Distribution of population and the growth of cities; land holding systems and pioneer settlement zones; the distribution of natural resources and their utilization; development problems in agriculture and industry; culture regions; current problems in the political geography of Latin America.

GEOG 244 Introduction to Third-World Geography
★3 (first term, 3-0-0). Outlook, traditions and potentials of developing nations in Africa, Asia and the Americas. Characteristics of their environments, natural resources and land use. Geographical and other causes of their slow economic development. Trends in their population, urbanization, industrialization and trade - the need for North-South dialogue.

GEOG 260 Geography of Rural Canada
★3 (either term, 3-0-0). The physical environment and the development of rural Canada; physical limits and economic margins; agricultural and rural development; the future for rural Canada.

GEOG 264 The Impact of Human Activities on the Natural Environment
★3 (either term, 3-0-0). Global aspects of environmental impacts and resource depletion affecting the Human-Environment relationship. Geographical concepts concerning population, food and mineral resources, pollution, urbanization, environmental assessment and management.

GEOG 285 Frontier Settlement
★3 (second term, 3-0-0). The varied nature of frontier and marginal settlement regions in the world, from low latitude to high latitude. Characteristics and problems, past and present, of such settlements with particular attention to those in Canada, Alaska and Northern Europe.

GEOG 306 People, Place, and Landscape
★3 (either term, 3-0-0). Examination of the principle that landscapes reflect the solutions people find to the geographical problems posed by the places where they live.

GEOG 348 East-Central Europe
★3 (either term, 3-0-0). A survey of the natural features; spatial aspects of demographic and cultural changes; territorial settlement and economic activity in the countries of East-Central Europe. Analysis of current problems associated with regional development. Prerequisite: GEOG 151 or consent of the instructor.

GEOG 354 Population Geography
★3 (first term, 3-0-0). Spatial patterns and variations in demographic characteristics and cultural qualities of human populations. Distribution, density, structure, movement, and growth of population studied with reference to the underlying social and economical processes. Note: See Interdisciplinary Studies for a complementary course.

GEOG 358 Transportation Geography
★3 (first term, 0-3s-0). Examines approaches geographers use in modelling transportation phenomena, emphasizing spatial interactions and transportation networks. Prerequisite: Consent of Department.

GEOG 365 Geography of Energy Resources
★3 (either term, 3-0-0). Geographic perspective on components and characteristics of renewable and non-renewable energy resources including their physical and spatial aspects, transportation, environmental impacts, energy use and conservation.

GEOG 446 Northern Lands II
★3 (second term, 3-0-0). Regional survey of northern development, human and economic characteristics and problems in Alaska, northern Canada, Greenland and Scandinavia.

GEOG 460 Regional Development
★3 (second term, 3-0-0). Causes and attempted remedies for regional problems; growth poles and centres; the regional planning process; disadvantaged regions in Canada and other countries. Prerequisite: Any of the following: GEOG 250, 260, 450; ECON 316, 317, 318, 319, 334, 363; or consent of instructor.

GEOG 470 Political Geography of Canada
★3 (second term, 3-0-0). The geographical significance of territorial sovereignty, international and internal boundaries, electoral results, rural and metropolitan government reform, public service areas, national resource ownership, federal/provincial issues. Prerequisite: GEOG 370 or consent of the instructor.

GEOG 471 The Historical Geography of North America
★3 (either term, 3-0-0). The evolution of settlement patterns and the cultural landscape of North America from the end of Amerindian times to the mid-twentieth century. Prerequisite: Consent of instructor.

44.19 German

Department of Germanic Languages

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
GERM 200	GERM 150	GERM 315	GERM 265
GERM 201	GERM 151	GERM 321	GERM 221
GERM 215	GERM 165	GERM 322	GERM 222
GERM 221	GERM 171		

44.19.1 Junior Courses

GERM 100 Beginners' German
★6 (3-0-2). Designed to lead to mastery of spoken and written German. Note: Not open to students with credit in German 30 or GERM 101.

GERM 101 Intensive Beginners' German
★6 (3-0-2). Designed to develop practical skill in spoken and written German with special emphasis on the acquisition of an extensive vocabulary. Note: Especially for prospective Honors students, students with a concentration in German, and for students with some previous knowledge of German. Admission only with the consent of Department.

GERM 150 First-Year University German
★6 (3-0-2). Designed to develop ability in speaking, reading, and writing German, using modern short stories, cultural readers, and audio-visual aids. Prerequisite: German 30, GERM 100, or the equivalent.

GERM 151 Intensive First-Year University German
★6 (3-0-2). Designed to develop ability in speaking, reading and writing German with special emphasis on the writing skill. Note: Especially for prospective Honors students, students with a concentration in German and for students of native background in German who need special training in grammar and writing. Prerequisite: German 30 or GERM 100 or 101 and consent of Department.

GERM 165 Reading German for Beginners
★6 (3-0-0). An intensive course to give beginning students a reading knowledge of German in the sciences, the arts and the humanities. Note: Not available to students with matriculation standing in German.

GERM 171 Introduction to German Linguistics and Literature
★6 (3-0-0). Emphasis will be on the achievements of German linguistics and on the analysis of literary texts in translation, both being set in cultural perspective. The course will be given in English. Note: This course will not fulfill the Language other than English requirement of the BA degree.

44.19.2 Senior Courses

GERM 221 German Prose in English Translation
★3 (first term, 3-0-0). Analyses of great novels and novellas in English translation from the eighteenth century to contemporary times. Note: Not accepted to meet concentration requirements in German. This course will not fulfill the Language other than English requirement of the BA degree.

GERM 222 German Drama in English Translation
★3 (second term, 3-0-0). Analyses of great dramas in English translation from the eighteenth century to contemporary times. Note: Not accepted to meet concentration requirements in German. This course will not fulfill the Language other than English requirement of the BA degree.

GERM 265 Advanced Reading German
★6 (3-0-0). Reading of advanced texts in the sciences, the arts and the humanities. Systematic discussion of complex constructions which are characteristic of technical and scholarly literature. Note: Students who pass GERM 265 with a grade of 6 or better will be considered by the Department as having fulfilled the reading requirement for German for the PhD at the University of Alberta. Prerequisite: German 30, GERM 100, 101, 165 or their equivalents.

GERM 301 Advanced German Grammar and Stylistics
★6 (3-0-0). Theoretical and practical study of the more complex areas of German grammar, style and idiomatic usage. Prerequisite: GERM 150, 151, or consent of Department. Note: Not to be taken after completion of any 400-level German course except with special departmental permission.

GERM 306 German-English Contrastive Phonology
★3 (first term, 3-0-0). Phonetic and phonemic analysis of English and German. Contrastive study includes application to teaching and learning German. Prerequisite: GERM 150, 151, or consent of Department. Note: This course will not fulfill the Language other than English requirement of the BA degree. This course cannot be used to fulfill the Social Sciences Group B requirement of the BA degree by students with a major or second subject offered by the Department of Germanic Languages.

GERM 307 German-English Contrastive Grammar: The Verbal System
★3 (second term, 3-0-0). Comparison of form and function of the verbal system including syntactic features. Prerequisite: GERM 150, 151, or consent of Department. Note: This course will not fulfill the Language other than English requirement of the BA degree. This course cannot be used to fulfill the Social Sciences Group B requirement of the BA degree by students with a major or second subject offered by the Department of Germanic Languages.

GERM 308 German-English Contrastive Grammar: The Nominal System
★3 (second term, 3-0-0). Comparison of form and function of the noun, its substitutes and modifiers. Prerequisite: GERM 150 or 151 or consent of Department.

GERM 330 German Culture and Civilization until 1949
★6 (3-0-0). Lectures and readings on German life, literature, and civilization. Prerequisite: GERM 150, 151, or consent of Department. Note: Not open to be taken after completion of any 400-level German course except with special departmental permission.

GERM 340 German Culture and Civilization since 1949
★6 (3-0-0). Lectures, readings and discussions of texts relating to the post-war cultural history of the German-speaking countries. Prerequisite: GERM 150, 151, or consent of Department. Note: Not to be taken after completion of any 400-level German course except with special departmental permission.

GERM 350 Survey of German Literature
★6 (3-0-0). Selected periods and major works in German literature. Prerequisite: GERM 150, 151, or consent of Department. Note: Not to be taken after any 400-level German course except with special departmental permission.

GERM 406 Introduction to German Linguistics
★3 (first term, 3-0-0). The Germani. The runes. Major features of the Germanic languages with emphasis on German. Prerequisite: GERM 306, or consent of Department.

GERM 407 History of New High German
★3 (second term, 3-0-0). Origin and development of modern standard German. Prerequisite: GERM 306, or consent of Department.

GERM 408 Studies in German Grammar
★3 (either term, 3-0-0). Prerequisite: GERM 306 and one of GERM 307/308, or consent of Department.

GERM 409 German Dialects
★3 (either term, 3-0-0). A close look at some widely differing German dialects. Basic principles of German dialectology. Prerequisite or corequisite: GERM 306 or consent of Department. Note: Not to be taken by students with credit in GERM 497 in 1988-89.

GERM 411 Middle High German I
★3 (first term, 3-0-0). An introduction to the grammar of Middle High German and to selected literary texts. Prerequisite: GERM 350 or consent of Department.

GERM 412 Middle High German II
★3 (second term, 3-0-0). Study of selected literary texts of classical Middle High German. Prerequisite: GERM 411, or consent of Department.

GERM 421 Medieval German Literature
★3 (either term, 3-0-0). An introduction to the background and literature of the German Middle Ages (770-1500), with analysis of representative texts in modern German translation. Prerequisite: GERM 350, or consent of Department.

GERM 422 Renaissance, Reformation and Baroque German Literature
★3 (either term, 3-0-0). An introduction to the literature of the sixteenth and seventeenth centuries, with analysis of selected works. Prerequisite: GERM 350, or consent of Department.

GERM 425 Literature of the German Enlightenment
★3 (either term, 3-0-0). After a survey of the political and cultural history of the time and the philosophical ideas of German Enlightenment *Aufklärung*, representative works of the period by such authors as Gottsched, Johann Elias Schlegel, Gellert and Wieland are discussed, with particular emphasis on the works of Lessing. Prerequisite: GERM 350 or consent of Department. Note: Not to be taken by students with credit in GERM 370 *German Enlightenment and Sturm und Drang*.

GERM 426 Literature of the German Sturm und Drang
★3 (either term, 3-0-0). This course deals with a unique German literary movement. It discusses the background and theories of the *Sturm und Drang* period and covers representative works of Herder, Gerstenberg, Hamann, Lenz, Leisewitz, as well as the young Goethe and Schiller. Prerequisite: GERM 350 or consent of Department. Note: Not to be taken by students with credit in GERM 370 *German Enlightenment and Sturm und Drang*.

GERM 430 German Classicism
★6 (3-0-0). The ideas and literature of German Classicism; the works of Goethe, Schiller, and Hölderlin. Special emphasis on the works of Goethe. Prerequisite: GERM 350, or consent of Department. Note: Not to be taken by students with credit in GERM 380 *German Classicism* .

GERM 435 Early German Romanticism
★3 (either term, 3-0-0). A survey of the major theoretical and poetic works by the early Romantic authors Wackenroder, Tieck, Novalis and Fr. Schlegel, with special attention to the origins of the modern novel in theory and practice, the fairy-tale and the artist-story. Prerequisite: GERM 350 or consent of Department. Note: Not to be taken by students with credit in GERM 385 *German Romanticism*.

GERM 436 Later German Romanticism
★3 (either term, 3-0-0). A survey of major theoretical and poetic works by writers of the later romantic period: Brentano, Hoffmann, Eichendorff, Kleist, and Heine, with special attention to the short story and to lyric poetry. Prerequisite: GERM 350 or consent of Department. Note: Not to be taken by students with credit in GERM 385 *German Romanticism*.

GERM 441 Exercises in Translation: German into English
★3 (either term, 3-0-0). Theory and practice of translation of texts in contemporary and classical German literature. Prerequisite: GERM 301, or consent of Department.

GERM 442 Exercises in Translation: English into German
★3 (either term, 3-0-0). Practice of translations of texts from modern English literature. Prerequisite: GE 301, or consent of Department.

GERM 446 German Literature of the 'Restauratio Period
★3 (first term, 3-0-0). A survey of the nineteenth cen prose, poetry, and drama up to 1850 tracing deve ments from late Romanticism through the 'Biederme and 'Jung-Deutschland' movements. Prerequis GERM 350, or consent of Department. Note: No be taken by students with credit in GERM 4 [Formerly GERM 401.]

GERM 447 German Literature of Poetic Realism
★3 (second term, 3-0-0). A survey of the nineteer century prose and drama after 1850; emphasizing wo of Poetic Realism up to and including Naturalism. requisite: GERM 350, or consent of Department. N Not to be taken by students with credit in GERM 4 [Formerly GERM 402.]

GERM 451 Modern German Literature I
★3 (first term, 3-0-0). Literature since Naturalism: pressionism, with interpretation of representative wo Prerequisite: GERM 350, or consent of Department.

GERM 452 Modern German Literature II
★3 (second term, 3-0-0). Literature since Impress ism: Expressionism and literature up to 1945, interpretation of representative works. Prerequisite: GE 350, or consent of Department.

GERM 456 Contemporary German Prose
★3 (first term, 3-0-0). An analysis and interpretatio selected novels and short stories since 1945, along a discussion of the theory of the novel. Prerequis GERM 350, or consent of Department.

GERM 457 Contemporary German Drama
★3 (second term, 3-0-0). An analysis and interpreta of selected dramas and radio plays since 1945, al with a discussion of the theory of the modern dra Prerequisite: GERM 350, or consent of Department.

GERM 460 The Development of a Genre in Germa Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). The novel, the Nov or the drama, with interpretation of examples. Prerec site: GERM 350, or consent of Department.

GERM 495 Directed Readings in Germanic Linguistics and Philology
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequis Consent of Department.

GERM 496 Directed Readings in German Literatu
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequis Consent of Department.

GERM 497 Special Topics in Germanic Linguistic and Philology
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequis Consent of Department.

GERM 498 Special Topics in German Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequis Consent of Department.

GERM 504 Directed Readings for Fourth-Year Honors Students
★3 (either term, 0-3s-0).

GERM 505 Honors Essay
★3 (second term, 0-3s-0). Required of fourth-year Hon students (except those in the Combined Honors p gram) and prepared under the supervision of a mem of the Department.

Note: For graduate courses in German, refer §204.36.4 of this Calendar.

44.19.3 Reserve List

The Department is unable to offer the followi courses regularly. Students should consult the Departm and/or the University timetable.

INT D 350 Contemporary Germany: Political and Economic Aspects
★3 (either term, 3-0-0). To be given in three four-we segments each by the Departments of History, Politi Science, and Economics. [Germanic Languages]. No This course will not fulfill the Language other th English requirement of the BA degree.

INT D 351 Contemporary Germany: Geographic ar Cultural Aspects
★3 (either term, 3-0-0). To be given in three four-we segments each by the Departments of Geography a Germanic Languages. [Germanic Languages] Note: Th course will not fulfill the Language other than Engli requirement of the BA degree.

44.20 Greek

Department of Classics

The following table lists renumbered courses effective 1990-91:

Old	New
GREEK 361	GREEK 461

Note: For additional related courses see §44.11 and §44.26.

44.20.1 Junior Course

GREEK 100 Beginners' Greek
★6 (3-0-1). Essential grammar and vocabulary, the reading of easy Greek and simple sentences for translation into Greek. Not open to students with credit in matriculation-level Greek.

44.20.2 Senior Courses

Note: Prerequisite for all 400-level GREEK courses: GREEK 300 or consent of Department.

GREEK 300 Greek Authors and Prose Composition
★6 (3-0-1). Sight translation. Review of Greek forms. More difficult sentences for translation into Greek. Note: This course follows GREEK 100.

GREEK 399 Readings in Greek Authors
★3 (either term, 0-3s-0). Prerequisite: GREEK 300 or consent of Department.

GREEK 411 Greek Grammar and Style
★3 (either term, 3-0-0). A study of Greek grammar and the writing of Greek prose.

GREEK 461 Xenophon
★3 (either term, 3-0-0). Prerequisite: GREEK 300 or consent of Department.

GREEK 471 Herodotus
★3 (either term, 3-0-0). Selections from the History. Note: Not open to students with credit in GREEK 371. Formerly GREEK 371.

GREEK 472 Thucydides
★3 (either term, 3-0-0). Selections from the Peloponnesian War. Note: Not open to students with credit in GREEK 372. Formerly GREEK 372.

GREEK 473 Aeschylus
★3 (either term, 3-0-0). Note: Not open to students with credit in GREEK 373. Formerly GREEK 373.

GREEK 474 Sophocles
★3 (either term, 3-0-0). Note: Not open to students with credit in GREEK 374. Formerly GREEK 374.

GREEK 475 Euripides
★3 (either term, 3-0-0). Note: Not open to students with credit in GREEK 375. Formerly GREEK 375.

GREEK 476 Greek Comedy
★3 (either term, 3-0-0). Selections from Aristophanes and/or Menander. Note: Not open to students with credit in GREEK 376. Formerly GREEK 376.

GREEK 477 Greek Philosophical Authors
★3 (either term, 3-0-0). Selections from Plato and Aristotle. Note: Not open to students with credit in GREEK 377. Formerly GREEK 377.

GREEK 479 Koine Greek I
★3 (either term, 3-0-0). Readings and studies in the New Testament and the Church Fathers and other Koine writings.

GREEK 481 Homer
★3 (either term, 3-0-0). Note: Not open to students with credit in GREEK 381. Formerly GREEK 381.

44.20.3 Honors and Graduate Courses

GREEK 501 Greek Epic and Didactic Poetry
★3 (either term, 3-0-0).

GREEK 503 Greek Drama
★3 (either term, 3-0-0).

GREEK 505 Greek Poetry
★3 (either term, 3-0-0).

GREEK 507 Greek Historiography
★3 (either term, 3-0-0).

GREEK 509 Greek Prose Writers
★3 (either term, 3-0-0).

GREEK 511 Greek Prose Composition and Unseens
★3 (either term, 3-0-0). Prerequisite: GREEK 411 or consent of Department.

GREEK 513 Topics in Greek Language
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

GREEK 551 Topics in Greek Literature
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

GREEK 599 Supervised Reading
★3 (either term, 3-0-0).

Note: Graduate Courses in Greek are listed in the Faculty of Graduate Studies and Research Section of the Calendar.

44.20.4 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department and/or the University timetable.

GREEK 412 Greek Composition and Style
★3 (either term, 3-0-0). A sequel to GREEK 411; includes practice in continuous prose composition. Prerequisite: GREEK 411.

GREEK 478 Greek Oratory
★3 (either term, 3-0-0). Selections from Greek Orators.

GREEK 480 Koine Greek II
★3 (either term, 3-0-0). Readings and studies in the New Testament and Church Fathers and other Koine writings.

44.21 Hebrew

Department of Religious Studies

44.21.1 Junior Course

HEB 100 Introductory Hebrew
★6 (3-0-2). Basic grammar of Classical Hebrew; introduction to the differences between Classical and Modern Hebrew. Short readings from the Hebrew Bible. Designed for students with no previous knowledge of Hebrew and not open to those with matriculation-level Hebrew.

44.21.2 Senior Courses

HEB 301 Intermediate Hebrew I
★3 (first term, 3-0-0). A continuation of HEB 100, with more emphasis on conversational Modern Hebrew. Further Biblical readings. Prerequisite: HEB 100 or consent of Department. Note: Not open to students with credit in HEB 300.

HEB 302 Intermediate Hebrew II
★3 (second term, 3-0-0). Theoretical and practical study of more complex aspects of the grammar and vocabulary of Classical and Modern Hebrew. Readings in Biblical and contemporary Hebrew. Prerequisite: HEB 301 or consent of Department. Note: Not open to students with credit in HEB 300.

HEB 401 Advanced Hebrew I
★3 (first term, 3-0-0). In-depth study of Hebrew grammar, syntax and style. Extensive readings of both Classical and Modern literature. Prerequisite: HEB 302 or consent of Department. Note: Not open to students with credit in HEB 400.

HEB 402 Advanced Hebrew II
★3 (second term, 3-0-0). A continuation of HEB 401. Prerequisite: HEB 401 or consent of Department. Note: Not open to students with credit in HEB 400.

HEB 499 Problems and Topics in Hebrew Language and/or Literature
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

44.22 History

The courses listed below represent an extensive reorganization and modification of the Department's offerings. Because of changes in course numbers and/or content, students should compare their new course selections with courses previously taken, so as to avoid duplication or overlap. For Ancient History, see Classics, §44.11.

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
HIST 200	HIST 100	HIST 335	HIST 316
HIST 204	HIST 210	HIST 336	HIST 317
HIST 210	HIST 110	HIST 337	HIST 311
HIST 220	HIST 120	HIST 338	HIST 318
HIST 300	HIST 200	HIST 339	HIST 320
HIST 301	HIST 204	HIST 340	HIST 231
HIST 302	HIST 205	HIST 341	HIST 230
HIST 303	HIST 206	HIST 342	HIST 330
HIST 304	HIST 396	HIST 343	HIST 232
HIST 305	HIST 202	HIST 344	HIST 332
HIST 308	HIST 302	HIST 345	HIST 333
HIST 309	HIST 303	HIST 346	HIST 335
HIST 310	HIST 301	HIST 347	HIST 337
HIST 313	HIST 211	HIST 348	HIST 338
HIST 315	HIST 214	HIST 350	HIST 250
HIST 316	HIST 215	HIST 351	HIST 251
HIST 317	HIST 216	HIST 360	HIST 260
HIST 318	HIST 217	HIST 361	HIST 261
HIST 319	HIST 299	HIST 380	HIST 394
HIST 320	HIST 305	HIST 382	HIST 392
HIST 321	HIST 306	HIST 384	HIST 395
HIST 325	HIST 323	HIST 385	HIST 386
HIST 326	HIST 324	HIST 386	HIST 393
HIST 327	HIST 219	HIST 388	HIST 385
HIST 328	HIST 308	HIST 389	HIST 382
HIST 329	HIST 309	HIST 391	HIST 241
HIST 330	HIST 312	HIST 392	HIST 242
HIST 331	HIST 313	HIST 396	HIST 246
HIST 332	HIST 314	HIST 397	HIST 247
HIST 334	HIST 315	HIST 398	HIST 298
		HIST 498	HIST 500

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
HIST 409	HIST 494	HIST 441	HIST 431
HIST 410	HIST 400	HIST 442	HIST 432
HIST 411	HIST 407	HIST 443	HIST 433
HIST 412	HIST 408	HIST 444	HIST 434
HIST 413	HIST 402	HIST 446	HIST 436
HIST 414	HIST 401	HIST 447	HIST 437
HIST 415	HIST 403	HIST 449	HIST 439
HIST 416	HIST 404	HIST 452	HIST 456
HIST 417	HIST 405	HIST 454	HIST 457
HIST 419	HIST 406	HIST 455	HIST 458
HIST 423	HIST 410	HIST 459	HIST 453
HIST 425	HIST 412	HIST 486	HIST 490
HIST 432	HIST 415	HIST 493	HIST 341
HIST 433	HIST 416	HIST 494	HIST 342
HIST 434	HIST 417	HIST 495	HIST 441
HIST 435	HIST 418	HIST 496	HIST 442
HIST 436	HIST 419	HIST 497	HIST 446
HIST 439	HIST 425	HIST 498	HIST 447
HIST 440	HIST 430		

44.22.1 Junior Courses

HIST 100 European History
★6 (3-1s-0). The evolution of European society from the decline of the Roman Empire in the West to the present.

HIST 110 Early World History II
★3 (second term, 3-0-0). World history from the end of the 6th century to the 18th century. Note: Students choosing HIST 110 for partial fulfillment of the Humanities Group A requirement must also take CLASS 110. Students will be expected to have a knowledge of material covered in CLASS 110 and it is therefore strongly recommended that they take CLASS 110 first.

HIST 120 World History Since the Eighteenth Century
★6 (3-0-0). Core course for the four year BA.

Note: The above courses are designed to provide a foundation for senior and advanced history courses, and also background for studies in related humanities and social sciences.

44.22.2 Senior Courses

HIST 200 Introduction to Medieval Europe
★6 (3-0-0). Europe from the fall of Rome to the Renaissance. Note: Formerly HIST 202. Not open to students with credit in HIST 202.

HIST 202 Social and Economic History of Medieval Europe
★3 (either term, 3-0-0).

HIST 204 European History since the Renaissance
★6 (3-0-0). Formerly HIST 201. Note: Not open to students with credit in HIST 201.

HIST 205 An Introduction to Modern Intellectual History
★3 (either term, 3-0-0). A survey of major trends in European intellectual history since the Enlightenment. Note: Formerly HIST 302. Not open to students with credit in HIST 302.

HIST 206 Introduction to the History of Women
★3 (either term, 3-0-0). This course is an introduction to the study of women's history. It will examine the position of women in western societies from the Middle Ages to the twentieth century. Note: Formerly HIST 206. Not open to students with credit in HIST 206.

HIST 210 Studies in the Political and Social History of Europe
★3 (either term, 3-0-0). A course dealing with four or five particular historical topics from the fall of Rome to 1914 using an integrated text and monograph studies.

HIST 211 Europe in the Age of the Renaissance and Reformation
★6 (3-0-0). Note: Students with credit in HIST 314 may not take this course for credit.

HIST 213 Europe in the Sixteenth-Century
★3 (either term, 3-0-0). Note: Students with credit in HIST 211 may not take this course for credit.

HIST 214 Europe in the Seventeenth-Century
★3 (either term, 3-0-0)

HIST 215 Europe in the Eighteenth-Century
★3 (either term, 3-0-0)

HIST 217 Twentieth-Century Europe
★6 (3-0-0).

HIST 219 History of the Holy Roman Empire
★3 (either term, 3-0-0). The rise and decline of the Holy Roman Empire from Charlemagne to its fall in 1806.

HIST 230 British History
★6 (3-0-0). A survey of the history of the British Isles.

HIST 231 Scotland from Early Times to the Present Day
★3 (either term, 3-0-0). A survey of the history of Scotland from the Reformation to the present.

HIST 232 Ireland from Early Times to the Present Day
★3 (either term, 3-0-0). A survey of the history of Ireland from St. Patrick to the present.

HIST 237 History of the First British Empire from the Fifteenth to the Nineteenth Century.
★3 (either term, 3-0-0). Note: Not open to students with credit in HIST 349 prior to 1989-90.

HIST 238 The Second British Empire and the Commonwealth Experience in the Nineteenth and Twentieth Century
★3 (either term, 3-0-0). Note: Not open to students with credit in HIST 349 prior to 1989-90.

HIST 241 Colonial Latin America
★3 (either term, 3-0-0). A survey of Latin American history to 1810.

HIST 242 Modern Latin America
★3 (either term, 3-0-0). A survey of Latin American history since 1810.

HIST 246 Africa in the Era of Empires and Slaves
★3 (either term, 3-0-0). African history to the nineteenth century.

HIST 247 Africa: From Colonialism to Revolution
★3 (either term, 3-0-0). African history since the nineteenth century.

HIST 250 American History to 1865
★3 (either term, 3-0-0). A survey of United States history from colonial times to the Civil War.

HIST 251 American History Since 1865
★3 (either term, 3-0-0). A survey of United States History from Civil War to the present.

HIST 260 An Introduction to the Study of Canadian History 1500-1867
★3 (first term, 3-0-0). Note: Formerly HIST 278. Not open to students with credit in HIST 278.

HIST 261 An Introduction to the Study of Canadian History 1867 to the Present
★3 (second term, 3-0-0). Note: Formerly HIST 279. Not open to students with credit in HIST 279.

HIST 280 Asia to 1500
★3 (either term, 3-0-0). A survey of the history of Asia to the beginning of the sixteenth century.

HIST 281 Asia From 1500
★3 (either term, 3-0-0). A survey of the history of Asia from the sixteenth century. Prerequisite: HIST 280 or consent of Department.

HIST 296 History of Medicine I
★3 (either term, 3-0-0). An introduction to European medicine from Hippocrates to William Harvey.

HIST 297 History of Medicine II
★3 (either term, 3-0-0). An introduction to the changing content, practice, and organization of European medicine since 1700.

HIST 298 History of Human Conflict
★6 (3-0-0). A course designed as an introduction to the history of one of man's least attractive but most consequential activities. Note: Not open to students with credit in HIST 300 (1983/84 to 1986/87). Formerly HIST 300.

HIST 299 History of Modern International Relations
★6 (3-0-0). Note: Formerly HIST 303. Not open to students with credit in HIST 303 (1983/84 to 1986/87).

HIST 300 Topics in European History
★3 (either term, 3-0-0).

HIST 301 Early Medieval Europe 338-1050
★3 (either term, 3-0-0).

HIST 302 European Intellectual History from the Enlightenment
★3 (either term, 0-3s-0). A survey of major political, socio-economic ideas and movements since the Enlightment.

HIST 303 European Intellectual History Since the Late Nineteenth Century
★3 (either term, 0-3s-0).

HIST 305 France in Revolution, 1760-1870
★3 (either term, 3-0-0). An introduction to the history of France from the origins of the French Revolution to the downfall of Napoleon III.

HIST 306 France since 1870
★3 (either term, 3-0-0). An introduction to the political, economic and social developments in France from the Third to Fifth Republic.

HIST 308 Germany Since Frederick the Great
★3 (either term, 3-0-0). A survey of modern German history from Frederick the Great (1740) to the defeat of Hitler in 1945.

HIST 309 Germany from 1918 to 1945
★3 (either term, 3-0-0). A study of German social, economic, political and intellectual development from the Weimar Republic to the end of the Nazi dictatorship.

HIST 311 History of the Byzantine Empire
★3 (either term, 3-0-0).

HIST 312 Foundations of East European History
★3 (first term, 3-0-0). The ethnic, religious, social, and political factors which shaped the development of the peoples of East Central Europe from the Middle Ages through the Age of Enlightenment.

HIST 313 Eastern Europe in the Nineteenth-Century
★3 (either term, 3-0-0). History of the area, from the Napoleonic War to World War I; the Polish question; the evolution of the Habsburg Empire; formation of the nation-states in the Balkans.

HIST 314 Eastern Europe since World War I
★3 (either term, 3-0-0). The recent history of Eastern Europe.

HIST 315 Foundations of Ukrainian History
★3 (either term, 3-0-0). The social, political and cultural development of Ukrainian lands from prehistory through the Enlightenment. Note: Not open to students who have credit in HIST 333.

HIST 316 Nineteenth-Century Ukraine
★3 (second term, 3-0-0). The Ukrainian people in the Russian and Austro-Hungarian empires. From serfdom to capitalism. The national movement and the making of the modern nation.

HIST 317 Twentieth-Century Ukraine
★3 (second term, 3-0-0). World War I and the emergence of the Ukrainian Republic. Ukrainian lands in the USSR and Poland during the interwar period. World War II and Nazi occupation. Soviet Ukraine since 1945.

HIST 318 Medieval and Imperial Russia
★6 (3-0-0). Medieval and Imperial Russia with an Epilogue on the Revolutions of 1917. Note: Not permitted for students who have taken HIST 323 or 325. Formerly part of HIST 323 and 325.

HIST 320 The Soviet Union
★6 (3-0-0). A historical survey of domestic and foreign policy since 1917.

HIST 330 British Medieval History
★6 (3-0-0). A survey from Roman times to 1485.

HIST 332 Tudor Britain
★3 (either term, 3-0-0).

HIST 333 Stuart Britain
★3 (either term, 3-0-0).

HIST 335 English Constitutional History (Modern)
★3 (either term, 3-0-0).

HIST 337 The Industrial Revolution in Britain
★3 (either term, 3-0-0). The main focus of this survey will be on the social and economic development of Britain during the Industrial Revolution, 1750-1850; concomitant changes in the politics and intellectual climate. Note: Not open to students with credit in ECON 312.

HIST 338 Britain as a World Power
★3 (either term, 3-0-0). A survey from the end of the Napoleonic Wars to the mid-twentieth century.

HIST 339 Topics in British History
★3 (either term, 3-0-0).

HIST 341 Land and Labor in Latin America
★3 (either term, 3-0-0). Prerequisite: HIST 241/242 consent of Department.

HIST 342 Political and Social Revolution in Latin America
★3 (either term, 3-0-0). Prerequisite: HIST 241/242 consent of Department.

HIST 346 Change and Continuity in 19th Century Africa
★3 (either term, 3-0-0). The course will explore soc economic, and political changes during a century wh saw the ending of the international slave trades and beginnings of European colonialism. No prerequisite HIST 246/396 is recommended.

INT D 346 Introduction to Eastern Europe and the Soviet Union
★6 (3-0-0). An interdisciplinary introduction to the stu of the socialist system with special reference to Soviet Union and East Europe. (Offered jointly by Departments of Slavic and East European Studie Comparative Literature, Economics, Geography, H tory, Political Science, Sociology.) [Slavic and E European Studies] Note: This course will not fulfill Language other than English requirement of the degree.

HIST 352 History of American Minorities
★3 (either term, 3-0-0).

HIST 354 American Economic History
★3 (either term, 3-0-0). A survey of American econom problems and policies in their historical setting.

HIST 355 History of US Foreign Relations
★3 (either term, 3-0-0). A survey of the internatio issues in the American past and the factors influenc the formation and application of US policy. Prerequisit HIST 250/251 or consent of Department.

HIST 357 American Colonial History
★3 (either term, 3-0-0). A survey of American colon history from settlement to independence.

HIST 359 Twentieth-Century America
★3 (either term, 3-0-0). Emphasis on the relation tween the nature of the modern political system in t United States and major social problems. Prerequisit Any course in American history or consent of Departme

HIST 360 Topics in Canadian History
★3 (either term, 3-0-0).

HIST 363 Topics in the History of Canadian Extern Relations
★3 (either term, 3-0-0). A survey of the impact of t United States and Great Britain on Canadian developme Formerly HIST 377.

HIST 364 The History of Social Welfare in Canada
★3 (either term, 3-0-0). A lecture course which exam ines the development of the welfare state in Canad from an historical perspective.

HIST 365 The Canadian West to 1870
★3 (first term, 3-0-0). A lecture course emphasizing t history of the prairie west but dealing as well wi westward expansion and the north and with the tran mountain west.

HIST 366 The Canadian West since 1870
★3 (either term, 3-0-0).

HIST 367 The History of Ukrainians in Canada
★3 (either term, 3-0-0).

HIST 368 The Native Aspect of Canada's History I
★3 (either term, 3-0-0). Canada's history as it relates its native people before 1830. Prerequisite: A thre weight course in Canadian history; ANTHR 350 or 35 strongly recommended.

HIST 369 The Native Aspect of Canada's History II
★3 (either term, 3-0-0). Canada's history as it relates its native people since 1830. Prerequisite: A thre weight course in Canadian history; ANTHR 350 or 35 strongly recommended.

HIST 370 Topics in the Social and Intellectual History of English Canada since 1760
★3 (either term, 3-0-0). A survey of the major themes English-Canadian social and intellectual history.

HIST 371 The History of Women in Canadian Society
★3 (either term, 3-0-0). Canadian women as affecte by, and as contributing to the major social changes the nineteenth and twentieth centuries.

HIST 372 History of Criminal Justice in Canada
★3 (either term, 3-0-0). The evolution of the majo institutions of the criminal justice system: criminal law; th courts; police and prisons. Note: This course is intende primarily for students in the BA (Special) in Criminolog program but is open to other interested students.

HIST 373 The History of Upper Canada and of Canada West, 1784-1864
★3 (either term, 3-0-0). The history of the founding and development of the English-speaking colony in the interior of the North American continent.

HIST 374 French Canada to Confederation
★3 (either term, 3-0-0).

HIST 375 French Canada Since Confederation
★3 (either term, 3-0-0).

HIST 376 Canada — World War I to World War II
★3 (either term, 3-0-0). Note: Formerly part of HIST 376 History of Canada since 1914).

HIST 377 Canada since World War II
★3 (either term, 3-0-0). Note: Formerly part of HIST 376 History of Canada since 1914).

HIST 378 History of Canada from Confederation to the First World War
★3 (either term, 3-0-0).

HIST 379 A Survey of Canadian Urban History
★3 (either term, 3-0-0). A survey of Canadian urban history.

HIST 381 Japan to 1868
★3 (either term, 3-0-0).

HIST 382 Japan's Modern Century
★3 (either term, 3-0-0). The history of Japan since 1868 dealing with Japan's total modernizing experience: social, political, economic and technological development. Motivations, policies, obstacles and achievements are emphasized.

HIST 383 The Civilization and Culture of Early China
★3 (either term, 3-0-0). This course focusses on the formative periods of Chinese civilization from prehistory to circa 600. Note: Formerly part of HIST 383 (★6). Students who have credit in HIST 383 (★6) may not take HIST 383 (★3) for credit.

HIST 385 Twentieth-Century China
★3 (either term, 3-0-0). The history of China from the Boxer Revolt to the present.

HIST 386 History of Science and Technology in China
★3 (either term, 3-0-0). The development of science and technology in China from earliest times to the present.

HIST 387 Canada's Relations with East Asia
★3 (either term, 3-0-0). A survey of Canada's contacts with China, Japan, Korea, and Vietnam from the mid-nineteenth century to the present.

HIST 390 Imperial China from circa 600 to 1911
★3 (either term, 3-0-0). This course focusses on the institutional and social history of imperial China from the T'ang to the Manchu Ch'ing dynasties. Note: Formerly part of HIST 383 (★6). Students who have credit in HIST 383 (★6) may not take HIST 390 for credit.

HIST 392 Pre-Modern Southeast Asia
★3 (either term, 3-0-0). Note: Formerly part of HIST 386. Not open to students with credit in HIST 386 prior to 1988-89.

HIST 393 Modern Southeast Asia
★3 (either term, 3-0-0). A survey of the history of South East Asia from the earliest times with emphasis on selected topics. Note: Not open to students with credit in HIST 386 prior to 1988-89.

HIST 394 Pre-Modern South Asia
★3 (either term, 3-0-0). Note: Formerly part of HIST 384. Not open to students with credit in HIST 384 prior to 1988-89.

HIST 395 Modern South Asia
★3 (either term, 3-0-0). A survey of the history of the sub-continent of India from the Indus Valley civilization to the present. Note: Not open to students with credit in HIST 384 prior to 1988-89.

HIST 396 History of Science and Technology
★6 (3-0-0). The nature of science and technology. The scientific process, the origins of the scientific tradition and the emergence of science. The scientific and industrial revolutions; discovery and invention in response to intellectual, social, political, and commercial needs, and pressures. The evolution of the major scientific disciplines and of technology from antiquity to the present; the interdependence of science and technology through the ages; the natural and social sciences in our time; prediction of possible future trends. Note: Formerly HIST 301. Not open to students with credit in HIST 301 (1983/84 to 1986/87).

44.22.3 Advanced Courses

The following courses are normally conducted as seminars; all are variable content courses and the precise topics covered in any given course may vary from year to year. Some account, therefore, may be taken of the particular interests of students within the framework of the course.

Normally, students who take these courses are expected to have at least 12 units of course weight in History; if they do not, they must obtain the consent of Department prior to their registration, and the Department will consider their special needs. For some courses there are additional specified requirements.

HIST 400 Topics in Modern European Social History
★3 (either term, 0-3s-0).

HIST 401 Topics in the History of European Socialism
★3 (either term, 0-3s-0).

HIST 402 Women in Modern European History
★3 (either term, 0-3s-0).

HIST 403 Topics in Medieval European History
★3 (either term, 0-3s-0).

HIST 404 Topics in the Renaissance and Reformation
★6 (0-3s-0).

HIST 405 War and Society in Early Modern Europe
★3 (either term, 0-3s-0).

HIST 406 Topics in European History Since the Second World War
★3 (either term, 0-3s-0).

HIST 407 Topics in the Intellectual History of Europe Since 1800
★3 (either term, 0-3s-0).

HIST 408 Topics in the Intellectual History of Europe Since the Late Nineteen Century
★3 (either term, 0-3s-0).

HIST 409 Topics in the History of France Before 1789
★3 (either term, 0-3s-0). Note: Not open to students with credit in HIST 420, 421 or 422 prior to 1991-92.

HIST 410 The French Revolution
★3 (either term, 0-3s-0).

HIST 411 Topics in the History of Modern France
★3 (either term, 0-3s-0). Note: Not open to students with credit in HIST 424 or 426 prior to 1991-92.

HIST 412 Paris in Revolution
★6 (5-0-10). A study 'on location' of the French Revolution and of subsequent revolutionary events in the national capital during the nineteenth century in the context of urban development from the Old Regime through the creation of the modern city under Napoleon III. Prerequisite: One course in European history or consent of Department. (Note: This course is given in Paris during the Intersession only. A knowledge of French, though useful, is not required. Those interested may obtain a brochure from the Department of History giving further information, or are invited to consult personally with the instructor, Dr. FA de Luna.)

HIST 413 Topics in the History of Central Europe
★3 (either term, 0-3s-0). Note: Not open to students with credit in HIST 427 or 428 prior to 1991-92.

HIST 414 Topics in the History of Modern Germany
★3 (either term, 0-3s-0). Not open to students with credit in HIST 429, 430 or 431 prior to 1991-92.

HIST 415 Topics in Ukrainian History
★3 (either term, 0-3s-0).

HIST 416 Topics in Eastern European History
★3 (either term, 0-3s-0).

HIST 417 The Intellectual History of Russia Since 1762
★3 (either term, 0-3s-0).

HIST 418 Topics in Russian History from Kievan Times to the Present
★3 (either term, 0-3s-0).

HIST 419 Topics in Soviet History
★3 (either term, 0-3s-0).

HIST 425 Imperial Vienna from Mozart to Freud, 1750-1918
★6 (Intersession, 3-6s-6). A history of the Habsburg Monarchy in the modern era, with special focus on the imperial capital, Vienna. Prerequisite: One course in European history or consent of Department. A knowledge of German, though useful, is not required. Note: This course is given in Vienna during the Intersession only. Those interested may obtain more information from the History Department.

HIST 429 Topics in British History
★3 (either term, 0-3s-0).

INT D 430 Problems and Topics in Middle Eastern Studies
★3 (either term, 3-0-0). (Offered jointly by the Departments of History, Political Science, Sociology and Religious Studies). [Religious Studies]. Prerequisite: Consent of one of the participating Departments.

HIST 430 Topics in the History of Anglo-Saxon England
★3 (either term, 0-3s-0).

HIST 431 Topics in the History of England from the Conquest (1066) to 1500
★3 (either term, 0-3s-0).

HIST 432 Topics in Sixteenth-Century British History
★3 (either term, 0-3s-0).

HIST 433 Topics in Seventeenth-Century British History
★3 (either term, 0-3s-0).

HIST 434 Topics in the History of Hanoverian England
★3 (either term, 0-3s-0).

HIST 436 Topics in British Economic History Since 1714
★3 (either term, 0-3s-0).

HIST 437 Topics in British Social History Since 1714
★3 (either term, 0-3s-0).

HIST 441 Topics in Latin American History to 1850
★3 (either term, 0-3s-0). Prerequisite: HIST 241/242 or consent of Department.

HIST 442 Topics in Latin American History Since 1850
★3 (either term, 0-3s-0). Prerequisite: HIST 241/242 or consent of Department.

HIST 446 Themes and Issues in African History
★3 (either term, 0-3s-0). Prerequisite: Previous course in African Studies or consent of Department.

HIST 447 Topics in West African History
★3 (either term, 0-3s-0). Students will examine controversial issues in the history of West Africa, using primary source materials (in English and/or French translation). The temporal focus (medieval, pre-colonial, colonial, modern) will vary from year to year. Prerequisite: Previous course in African History or consent of Department.

HIST 450 Topics in American History
★3 (either term, 0-3s-0).

HIST 451 Topics in Seventeenth Century and Eighteenth-Century America
★3 (either term, 0-3s-0). Note: Not open to students with credit in HIST 451 prior to 1991-92.

HIST 452 Topics in Nineteenth-Century America
★3 (either term, 0-3s-0). Note: Not open to students with credit in HIST 456, 457 or 458 prior to 1991-92.

HIST 453 Topics in Twentieth-Century America
★3 (either term, 0-3s-0). Note: Not open to students with credit in HIST 459 prior to 1991-92.

HIST 456 Topics in American Social and Intellectual History
★3 (either term, 0-3s-0).

HIST 457 Topics in American Economic History
★3 (either term, 0-3s-0).

HIST 458 Topics in the History of American Foreign Relations
★3 (either term, 0-3s-0).

HIST 460 Topics in Canadian History
★3 (either term, 0-3s-0). Prerequisite: A previous course in Canadian history or consent of Department.

HIST 464 Topics in the History of the Canadian West
★6 (0-3s-0). Prerequisite: HIST 365 or 366, or consent of Department.

HIST 467 Topics in Alberta History
★3 (either term, 0-3s-0). Prerequisite: A previous course in Canadian history or consent of Department.

HIST 468 Topics in the History of Ethnic Settlement
★3 (either term, 0-3s-0). Prerequisite: A previous course in Canadian history or consent of Department.

HIST 469 Topics in the Political and Constitutional History of Canada since Confederation
★3 (either term, 0-3s-0). Prerequisite: A previous course in Canadian history or consent of Department.

HIST 470 Topics in Canadian Social History
★3 (either term, 0-3s-0). Prerequisite: A previous course in Canadian history or consent of Department.

HIST 471 Topics in Canadian Intellectual History
★3 (either term, 0-3s-0). Prerequisite: A previous course in Canadian history or consent of Department.

HIST 472 Topics in the History of Pre-Confederation Canada
★3 (either term, 0-3s-0). Prerequisite: A course in Canadian history or consent of the the Department. Note: Not open to students with credit in HIST 472 or 473 prior to 1991-92.

HIST 474 Topics in the History of Nineteenth-Century French Canada
★3 (either term, 0-3s-0). Prerequisite: A previous course in Canadian history or consent of Department.

INT D 475 The Family in Socio-Historical Perspective
★3 (either term, 3-0-0). Comparative study of the family in socio-historical context with emphasis on North American and European family systems. Critical examination of contemporary sociological family theory in relation to historical data. Issues in socio-historical research methods of family study. Prerequisite: SOC 271 or equivalent. (Offered jointly by the Departments of History and Sociology). [Sociology].

HIST 475 Topics in the History of Twentieth-Century French Canada
★3 (either term, 0-3s-0). Prerequisite: A previous course in Canadian history or consent of Department.

HIST 476 Topics in Canadian Business History
★3 (either term, 0-3s-0). Prerequisite: A previous course in Canadian history or consent of Department.

HIST 477 Topics in the History of Canadian External Relations
★3 (either term, 0-3s-0). Prerequisite: A previous course in Canadian history or consent of Department.

HIST 478 Topics in the History of the Canadian North
★3 (either term, 0-3s-0). Prerequisite: A previous course in Canadian history or consent of Department.

HIST 479 Topics in Canadian Native History
★3 (either term, 0-3s-0). Prerequisite: A previous course in Canadian history or consent of Department.

HIST 480 Topics in Japanese History
★3 (either term, 0-3s-0). Prerequisite: A course in Asian history or consent of Department.

HIST 481 Topics in Chinese History
★3 (either term, 0-3s-0). Prerequisite: A course in Asian history or consent of Department.

HIST 482 Topics in Modern East Asian History
★6 (0-3s-0). Prerequisite: A course in Asian history or consent of Department.

HIST 483 Topics in the History of Chinese Thought
★3 (either term, 0-3s-0). An examination of the major traditions and developments of Chinese thought. How Confucian, Taoist, Legalist and Buddhist concepts shaped the politics, history and culture of traditional China is of particular interest to the course. Prerequisite: A previous course in Asian history or consent of the the Department. Note: Students with credit in HIST 481 offered as History of Chinese Thought may not take HIST 483 for credit.

HIST 484 Topics in South-East Asian History
★3 (either term, 0-3s-0). Prerequisite: A course in Asian history or consent of Department.

HIST 487 Topics in South Asian History
★3 (either term, 0-3s-0). Bangladesh, India, Pakistan, or Sri Lanka. Prerequisite: A previous course in Asian history or consent of Department.

HIST 490 Topics in British Empire and Commonwealth History
★3 (either term, 0-3s-0).

HIST 492 Topics in History and Theory
★3 (either term, 0-3s-0). Note: Not open to students with credit in HIST 400 or 401 prior to 1991-92.

HIST 493 War and Society in the Modern World
★3 (either term, 0-3s-0). Note: Not open to students with credit in HIST 402, 403, or 404 prior to 1991-92.

HIST 494 Topics in Comparative History
★3 (either term, 0-3s-0).

HIST 498 Directed Study
★3 (either term, 0-3s-0)

INT D 498 Historiography of Science and Technology: Problems and Methods.
★3 (either term, 0-3s-0). (Offered jointly by the Departments of History and Philosophy.)[History]

HIST 500 Introduction to Historiography for Honors Students
★6 (0-3s-0).

HIST 501 Special Subject, Fourth-Year Honors History
★6 (0-3s-0). Preparation of the Honors essay, required in the fourth year of the Honors program.

HIST 502 Directed Study
★6 (0-3s-0). Note: For students in the fourth year of the Honors program. Note: Not open to students with credit in HIST 599.

Note: For graduate courses in History, refer to §204.38.4 of this Calendar.

44.22.4 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department and/or the University timetable.

HIST 216 Revolutionary and Nineteenth-Century Europe
★6 (3-0-0).

HIST 323 Iberian History to 1808
★3 (either term, 3-0-0). A survey of Spanish and Portuguese history to 1808. Note: Formerly part of HIST 393. Students who have credit in HIST 393 may not take HIST 325 for credit.

HIST 324 Iberian History Since 1808
★3 (either term, 3-0-0). A survey of modern Spanish and Portuguese history. Note: Formerly part of HIST 393. Students who have credit in HIST 393 may not take HIST 326 for credit.

HIST 353 American Westward Expansion
★3 (either term, 3-0-0). A survey of America's frontier experience, its economic, political, and social aspects, and its heritage. Prerequisite: A course in American History or consent of Department.

HIST 439 Topics in British Foreign Policy 1815-1956
★6 (0-3s-0).

HIST 495 Topics in the History of Revolution in the Modern World
★3 (either term, 0-3s-0). Note: Not open to students with credit in HIST 405 or 406 prior to 1991-92.

44.23 Interdisciplinary Studies

Courses listed below are the joint concern of the departments stated in the course descriptions. Instruction will be offered by members of one or more of the departments or faculties listed. Responsibility for registration is with the department shown in square brackets at the end of the description.

Unless otherwise indicated in the course description an INT D course may be applied toward either the major or the second subject or as an option if it appears under the department's course listings in §44.1-44.46.

Note that six units of course weight at the 400-level in INT D cannot constitute a second subject in the BA (AR 20) program. Normally, a maximum of three units of course weight at the 400-level in INT D may be applied toward the second-subject requirement, unless otherwise approved by the second-subject department.

44.23.1 Junior Courses

INT D 101 The Slavic World I
★3 (first term, 3-0-0). Cultural developments in the Slavic lands from the early Middle Ages through Romanticism, with emphasis on literature and the fine arts. Trends such as the Renaissance, Baroque, Classicism and Romanticism will be examined. [Slavic and East European Studies].

INT D 102 The Slavic World II
★3 (second term, 3-0-0). Cultural developments in the Slavic lands from the mid-nineteenth century to the present, with emphasis on literature and the fine arts. Trends such as realism and modernism will be examined. [Slavic and East European Studies].

44.23.2 Senior Courses

INT D 302 Economics of Agriculture
★3 (either term, 3-0-0). The nature and scope of agricultural economics; economic aspects of agricultural production, marketing, finance, resource use, prices, and policy; relation of the agricultural sector to the economy as a whole; analysis of structural change, economic growth, and adjustment in agriculture. Prerequisite: ECON 101/102. (Offered jointly by the Departments of Economics and Rural Economy.) [Rural Economy]

INT D 303 Economics of World Agriculture
★3 (either term, 3-0-0). Economic issues in international agriculture including world food security, farming systems, agricultural trade and aid. The role of agriculture in development and means of improving the performance of agriculture world-wide. Foreign domestic agricultural policies and international trade protection measures, and potential reforms in relation to Canadian agricultural interests. Prerequisite: ECON 101/102. (Offered jointly by the Departments of Economics and Rural Economy). [Rural Economy]

INT D 346 Introduction to Eastern Europe and the Soviet Union
★6 (3-0-0). An interdisciplinary introduction to the stu of the socialist system with special reference to th Soviet Union and East Europe. (Offered jointly by t Departments of Slavic and East European Studie Comparative Literature, Economics, Geography, Hi tory, Political Science, Sociology.) [Slavic and Ea European Studies] Note: This course will not fulfill t Language other than English requirement of the B degree.

INT D 347 Women and Socialism: USSR and Eastern Europe
★3 (second term, 3-0-0). Theory and practice of socia ism as related to the status of women in Eastern Euro and the Soviet Union. Prerequisite: Consent of Departmer (Offered jointly by the Departments of Slavic and Ea European Studies, Political Science, and Sociology [Slavic and East European Studies]. Note: This cours will not fulfill the Language other than English requir ment of the BA degree.

INT D 350 Contemporary Germany: Political and Economic Aspects
★3 (either term, 3-0-0). To be given in three four-wee segments each by the Departments of History, Politic Science, and Economics. [Germanic Languages]. Not This course will not fulfill the Language other the English requirement of the BA degree.

INT D 351 Contemporary Germany: Geographic an Cultural Aspects
★3 (either term, 3-0-0). To be given in three four-wee segments each by the Departments of Geography an Germanic Languages. [Germanic Languages] Note: Th course will not fulfill the Language other than Englis requirement of the BA degree.

INT D 356 Sociology of Rural Life
★3 (either term, 3-0-0). The rural community and rur social systems, with special reference to changes in th rural way of life. Prerequisite: R SOC 355, or one SOC 100, 202 or 300. (Offered jointly by the Depar ments of Rural Economy and Sociology.) [Rural Economy

INT D 357 Health Care Economics
★3 (either term, 3-0-0). Resource allocation in th health care industry; production and cost relationship within various types of institutional settings (hospita medical firm) the role of the price mechanism in alloca ing resources. Manpower planning; the role of the Go ernment and professional groups in allocating resource in the non-profit sector of the health industry. (Offere jointly by the Departments of Economics and Healt Services Administration.) [Health Services Administratio

INT D 369 Economics of the Environment
★3 (either term, 3-0-0). Economic growth and the dete rioration of the environment; types and causes of env ronmental deterioration; theory, policy, and measuremer relating to environmental deterioration; recreation ec nomics; and current Canadian environmental topic Prerequisite: ECON 101 or 204. (Offered jointly by th Departments of Economics and Rural Economy [Economics]

INT D 393 Political Sociology
★3 (either term, 3-0-0). An examination of the impact c social organization and structure on the conduct c politics in mass societies, and of the ways the organiza tion and structures of such societies are affected b political processes. Prerequisite: POL S 100, or 101 an 102; or one of SOC 100, 202 or 300. (Offered jointly b the Departments of Political Science and Sociology [Political Science].

INT D 394 Introduction to Criminal Law
★3 (either term, 3-0-0). Prerequisite: SOC 225. Not Primarily for BA (Criminology) students. [Sociology]

INT D 430 Problems and Topics in Middle Eastern Studies
★3 (either term, 3-0-0). (Offered jointly by the Depar ments of History, Political Science, Sociology and Rel gious Studies). [Religious Studies]. Prerequisite: Conser of one of the participating Departments.

INT D 443 The Soviet North and Siberia: Native Communities
★3 (either term, 3-0-0). The economy, political adminis tration, and the social development of the native people of Siberia and the Soviet North. Prerequisite or corequisite An area-related course in one of Geography, Politica Science, Economics, or consent of Department of Slavi and East European Studies. (Other participating unit normally include the Departments of Anthropology, Ecc nomics, and Geography). [Slavic and East Europea Studies]. Note: This course will not fulfill the Languag other than English requirement of the BA degree.

INT D 444 Ukraine
★3 (either term, 3-0-0). Major social, economic, politica and cultural trends in the Ukrainian SSR in the pos World War II period. Prerequisite or corequisite: A area-related three-weight course in one of geography

istory, political science, or Ukrainian, or consent of Department of Slavic and East European Studies. (Other participating unit normally includes the Department of History). [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

INT D 445 Poland
★3 (either term, 3-0-0). The political, social, economic, and cultural developments in post World War II Poland. Prerequisite: INT D 346, or POLSH 304, or equivalent, or demonstration to the Department of Slavic and East European Studies of sufficient background in the area. Other participating units normally include the Departments of Economics, Fine Arts, Geography and Sociology). [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

INT D 446 Eastern Europe: A Travel-Study Course
★6 (5-0-15). An intensive interdisciplinary study of Eastern Europe and the Soviet Union, in Eastern Europe itself. Designed to provide an understanding of the area by directed study on location. Note: The course is offered only in the Intersession in countries of Eastern Europe and the USSR on a selected basis and includes intensive study in one or more countries. Prerequisite: INT D 346 or consent of Department. Pre-session study and preparation. [Slavic and East European Studies].

INT D 447 Soviet Political Thought
★3 (either term, 3-0-0). Consideration of Russian and Soviet critical political thought, and current discussions in the USSR and abroad on a wide range of political topics, from the organization of state power, interpretations of the history of the USSR and its ideology, to people's rights and freedoms, to nationality issues, and other current political problems. Prerequisite: A course in the Soviet/Russian area, or permission of instructor. Note: Not to be taken by students with credit in INT D 447 (Societ Dissent). (Offered jointly by the Departments of Political Science and Slavic and East European Studies). [Slavic and East European Studies].

INT D 451 Recreation Geography
★3 (either term, 3-0-0). Geographic research on outdoor recreation; behavioral-spatial approaches to participation and conflict in resource use, social and ecological carrying capacity, recreation space management. Prerequisite: Consent of the instructor. (Offered jointly by the Departments of Geography and Recreation and Leisure Studies). [Geography].

INT D 456 Rural Social Problems and Public Policy
★3 (either term, 3-0-0). Social problems in Canadian rural life; analysis of policy making processes related to these problems. Prerequisite: Consent of instructor; INT D 356 recommended. (Offered jointly by the Departments of Rural Economy and Sociology.) [Rural Economy]

INT D 458 Socioeconomic Development of Western Canadian Agriculture
★3 (first term, 3-0-0). The economic and social origins of Western Canadian agricultural development. A chronological examination of farm and political organizations and other agrarian social movements influencing the farming sector. The growth of public policy and development of the institutional framework supporting agriculture. Discussion of past and present issues in Western Canadian agricultural development, including such factors as land settlement, transportation and farming support services. Prerequisite: R SOC 355, or one of SOC 100 or 300. (Offered jointly by the Departments of Rural Economy and Sociology.) [Rural Economy]

INT D 468 Principles of International Humanitarian Law
★3 (either term, 3-0-0). Historical background; humanitarian intervention; human rights; law of war; international criminal law. Prerequisite: Consent of Faculty of Law or Department of Political Science. [Political Science].

INT D 475 The Family in Socio-Historical Perspective
★3 (either term, 3-0-0). Comparative study of the family in socio-historical context with emphasis on North American and European family systems. Critical examination of contemporary sociological family theory in relation to historical data. Issues in socio-historical research methods of family study. Prerequisite: SOC 271 or equivalent. (Offered jointly by the Departments of History and Sociology). [Sociology].

INT D 479 Honors Thesis
★3 (either term, 3-0-0). Directed Honors thesis research. Note: Required of all BA (Honors) Students majoring in Slavic and East European Studies who are in their final year of study.

INT D 498 Historiography of Science and Technology: Problems and Methods.
★3 (either term, 0-3s-0). (Offered jointly by the Departments of History and Philosophy.)[History]

INT D 499 Conference Course (Soviet Union and Eastern Europe)
★3 (either term, 3-0-0) or ★6 (3-0-0). Seminar for advanced students in Slavic and East European Studies designed to introduce fundamental questions in the field. [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

44.23.3 Honors and Graduate Courses

INT D 520 Combined Honors Project
★6 Restricted to fourth-year students in a combined Honors program.

INT D 540 Seminar on Comparative, Legal, Constitutional, and Federal Studies
★6 (0-3s-0). Prerequisite: Consent of Department. (Offered jointly by the Departments of History and Political Science.) [Political Science].

INT D 546 East European and Soviet Studies
★6 (3-0-0). An interdisciplinary seminar. (Offered jointly by the Departments of Slavic and East European Studies, Comparative Literature, Economics, Geography, History, Political Science, Sociology.) [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

INT D 566 Resource Economics II: Economics of the Environment
★3 (either term, 3-0-0). Economic theory and policy relating to resource and environmental quality problems; welfare and public policy issues in resource decision-making; the relationships between economic growth and environmental preservation; externalities and public goods; economics of pollution; recreation economics; selected Canadian environmental issues. [Economics].

INT D 594 Quaternary Environments
★6 (3-0-0). A comprehensive survey of the Quaternary period; dating methods, paleoclimates, vertebrates, case studies in stratigraphy and paleoecology. Note: Not open to students with credit in ANTHR 594. Prerequisite: GEOL 492 or GEOG 432 or a related 400-level course in Anthropology, Botany, Geology, Zoology, Forest Science or Soil Science. (Offered jointly by the Departments of Anthropology and Geology). [Geology].

INT D 653 Regionalism and Urban Planning
★3 (either term, 3-0-0).

44.24 Italian

Department of Romance Languages

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
ITAL 200	ITAL 150	ITAL 300	ITAL 250

44.24.1 Junior Courses

ITAL 100 Beginners' Italian
★6 (3-0-2). Italian grammar and pronunciation. Readings of easy texts dealing with different aspects of Italian culture. Note: This course is not open to students having some previous knowledge of Italian or any of its dialects. See ITAL 150.

ITAL 150 First-Year University Italian
★6 (3-0-0). Designed for students having some previous knowledge of Italian. Note: Not open to students having credit in ITAL 100.

44.24.2 Senior Courses

ITAL 201 Practical Work in Oral Italian for Second-Year Honors Students
★2 (1-0-0).

ITAL 250 Second-Year Italian
★6 (3-0-0). Selected contemporary prose and poetry. Advanced grammar and phonetics. Prerequisite: ITAL 100, 150 or equivalent.

ITAL 302 Practical Work in Oral Italian for Third-Year Honors Students
★2 (1-0-0).

ITAL 321 Contemporary Italian Novel, Before 1945
★3 (either term, 3-0-0). Selection of representative major writers. Prerequisite: ITAL 250 or consent of Department.

ITAL 322 Contemporary Italian Novel, Post-Second World War
★3 (either term, 3-0-0). Selection of representative major writers. Prerequisite: ITAL 250 or consent of Department.

ITAL 331 Contemporary Italian Short Stories, Before 1945
★3 (either term, 3-0-0). Selection of representative major writers. Prerequisite: ITAL 250 or consent of Department.

ITAL 332 Contemporary Italian Short Stories, Post-Second World War
★3 (either term, 3-0-0). Selection of representative major writers. Prerequisite: ITAL 250 or consent of Department.

ITAL 340 A Survey of Italian Literature
★3 (either term, 3-0-0). Major literary works in Italian from the Sicilian school to the present. Prerequisite: ITAL 250 or consent of Department.

ITAL 350 Italian Literature in English Translation
★3 (either term, 3-0-0). Major literary works from Dante to the Modern Period. Language of instruction is English. Note: Not acceptable to meet concentration requirements in Italian. This course will not fulfill the Language other than English requirement of the BA degree.

ITAL 363 Studies in Italian Literary Genres
★3 (either term, 3-0-0). Prerequisite: ITAL 250 or consent of Department.

ITAL 375 Studies in Modern Italian Literature
★3 (either term, 3-0-0). Prerequisite: ITAL 250 or consent of Department.

ITAL 380 Dante's Inferno
★3 (either term, 3-0-0). Prerequisite: ITAL 250 or consent of Department.

ITAL 381 Dante's Purgatorio and Paradiso
★3 (either term, 3-0-0). Prerequisite: ITAL 250 or consent of Department.

ITAL 394 Composition I
★3 (either term, 3-0-0). This course is designed to improve students' command of Italian through intensive practice. Prerequisite: ITAL 250 or consent of Department.

ITAL 395 Composition II
★3 (either term, 3-0-0). Prerequisite: ITAL 250, or consent of Department.

ITAL 403 Practical Work in Oral Italian for Fourth-Year Honors Students
★2 (1-0-0).

ITAL 415 Studies in Italian Renaissance Literature
★3 (either term, 3-0-0). Prerequisite: A 300-level course in Italian literature or consent of Department.

ITAL 419 Selected Topics in Italian Literature
★3 (either term, 3-0-0). Prerequisite: A 300-level course in Italian literature or consent of Department.

ITAL 425 Translation
★3 (either term, 3-0-0). Literary and technical translation from English to Italian. Prerequisite: ITAL 250 or 394 or 395 consent of Department.

ITAL 499 Directed Reading
★3 (either term, 3-0-0) or ★6 (3-0-0). Designed to meet the needs of individual students. Prerequisite: Consent of Department.

44.24.3 Honors and Graduate Courses

ITAL 501 Teaching Strategies for the Instruction of Italian
★0

ITAL 505 Topics in Italian Medieval Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

ITAL 525 Topics in Italian Renaissance Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

ITAL 545 Topics in Italian Literature of the Seventeenth and Eighteenth Centuries
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

ITAL 565 Topics in Nineteenth Century Italian Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

ITAL 575 Topics in Twentieth Century Italian Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

ITAL 599 Conference Course
★3 (either term, 3-0-0) or ★6 (3-0-0). A detailed study of some great author or question not dealt with in other Honors or Graduate courses. Designed to meet the needs of individual Honors or Graduate students. Prerequisite: Consent of Department.

Note: For additional courses related to Italian, see Romance Linguistics in §44.36 and Romance Literature in §44.37.

44.25 Japanese

Department of East Asian Languages and Literatures

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
JAPAN 201	JAPAN 151	JAPAN 312	JAPAN 306
JAPAN 202	JAPAN 152	JAPAN 325	JAPAN 225
JAPAN 300	JAPAN 200	JAPAN 326	JAPAN 226
JAPAN 301	JAPAN 201	JAPAN 350	JAPAN 250
JAPAN 302	JAPAN 202	JAPAN 351	JAPAN 301
JAPAN 307	JAPAN 207	JAPAN 352	JAPAN 302
JAPAN 308	JAPAN 208	JAPAN 405	JAPAN 451
JAPAN 311	JAPAN 305	JAPAN 406	JAPAN 452
		JAPAN 450	JAPAN 350

Preface: There are two routes for embarking upon the study of the Japanese language. One is the intensive route in which both JAPAN 100 and 200 are taken in sequence over the period of one school year. (Note: both JAPAN 100 and 200 are six weight courses.) The other route is non-intensive beginning with JAPAN 101 and 102 (or 207 and 208 which is specially designed for those students with a background in Chinese language) and followed by JAPAN 201 and 202. Those students wishing to major in Japanese are strongly encouraged to take the intensive route.

44.25.1 Junior Courses

Note: These courses are designed for students whose first language is not Japanese.

JAPAN 100 Intensive Basic Japanese I
★6 (either term, 0-10L-0). An intensive course designed to develop practical skills in spoken and written Japanese. This course is equivalent to JAPAN 101 and 102. Note: Normally students proceed from JAPAN 100 to 200. Not open to students with credit in Japanese 35.

JAPAN 101 Introductory Japanese I
★3 (either term, 0-5L-0). A course designed to develop practical skills in spoken and written Japanese. Note: JAPAN 100 and 101 may not both be taken for credit. Not open to students with credit in Japanese 35.

JAPAN 102 Introductory Japanese II
★3 (either term, 0-5L-0). A continuation of JAPAN 101. Prerequisite: JAPAN 101 or equivalent. Note: JAPAN 100 and 102 may not both be taken for credit.

JAPAN 151 First-Year University Japanese I
★3 (either term, 0-5L-0). A course designed for students who have some previous knowledge of spoken Japanese but need training in grammar and writing. Prerequisite: Japanese 35 or consent of Department. Note: Students with credit in Japanese 35 should seek advice from the Department.

JAPAN 152 First-Year University Japanese II
★3 (either term, 0-5L-0). A continuation of JAPAN 151. Prerequisite: JAPAN 151 or consent of Department.

44.25.2 Senior Courses

Note: JAPAN 200, 201, 202, 301, 302, 305, 306, 401, 402, 451 and 452 are designed for students whose first language is not Japanese.

JAPAN 200 Intensive Basic Japanese II
★6 (either term, 0-10L-0). A continuation of JAPAN 100. This course is equivalent to JAPAN 201 and 202. Prerequisite: JAPAN 100, or equivalent.

JAPAN 201 Introductory Japanese III
★3 (either term, 0-4L-0). Designed to develop further skills in spoken and written Japanese. Prerequisite: One of JAPAN 100, 102, 208 or equivalent. Note: JAPAN 200 and 201 may not both be taken for credit. JAPAN 201 and 202 together are roughly equivalent to JAPAN 200.

JAPAN 202 Introductory Japanese IV
★3 (either term, 0-4L-0). A continuation of JAPAN 201. Prerequisite: JAPAN 201. Note: JAPAN 200 and 202 may not both be taken for credit. JAPAN 201 and 202 are roughly equivalent to JAPAN 200.

JAPAN 207 Japanese Language for Readers of Chinese I
★3 (either term, 0-5L-0). Integrated course in Japanese conversation and reading for persons who already read Chinese. Prerequisite: Knowledge of written Chinese. Note: Only one of JAPAN 100, 101, or 207 may be taken for credit.

JAPAN 208 Japanese Language for Readers of Chinese II
★3 (either term, 0-5L-0). A continuation of JAPAN 207. Prerequisite: JAPAN 207 or equivalent. Note: Only one of JAPAN 100, 102, or 208 may be taken for credit.

JAPAN 225 Calligraphy and the History of the Japanese Writing System I
★3 (either term, 3-0-0). An introduction to the history of the Japanese writing system, from AD 700 to 1600, including lectures on cultural background, study of basic vocabulary and practice of brush-writing. No prerequisite. Note: JAPAN 225 and CHINA 225 may not both be taken for credit. This course is designed for students whose first language is not Japanese. Note: This course will not fulfill the Language other than English requirement of the BA degree.

JAPAN 226 Calligraphy and the History of the Japanese Writing System II
★3 (either term, 3-0-0). A continuation of JAPAN 225 covering the period 1600 to the present. Prerequisite: JAPAN 225, or CHINA 225 or consent of Department. Note: JAPAN 226 and CHINA 226 may not both be taken for credit. This course is designed for students whose first language is not Japanese. Note: This course will not fulfill the Language other than English requirement of the BA degree.

JAPAN 250 The Japanese Language in its Cultural Setting I
★6 (Intersession abroad only, 0-15L-0). Oral immersion course to be studied abroad. Designed for improvement of oral/aural skills at senior elementary level. Prerequisite: One of JAPAN 100, 102, 208 or consent of Department.

JAPAN 301 Intermediate Japanese Language I
★3 (either term, 0-5L-0). This course is designed to further develop the ability to speak, read and write Japanese, with special emphasis on the latter two skills. Prerequisite: JAPAN 200 or equivalent.

JAPAN 302 Intermediate Japanese Language II
★3 (either term, 0-5L-0). A continuation of JAPAN 301. Prerequisite: JAPAN 301 or equivalent.

JAPAN 305 Intermediate Conversation and Composition I
★3 (either term, 0-4L-0). Designed to be taken in conjunction with JAPAN 301 to develop knowledge of practical Japanese through speaking and writing. Prerequisite: JAPAN 200 or equivalent.

JAPAN 306 Intermediate Conversation and Composition II
★3 (either term, 0-4L-0). A continuation of JAPAN 305. Designed to be taken in conjunction with JAPAN 302. Prerequisite: JAPAN 305.

JAPAN 321 Pre-Modern Japanese Literature in English Translation
★3 (either term, 3-0-0). This course studies English translations of Japanese classics such as the Tale of Genji, Noh plays, the haiku of Basho, and the picaresque fiction of Saikaku. No prerequisite. Note: This course will not fulfill the Language other than English requirement of the BA degree.

JAPAN 322 Modern Japanese Literature in English Translation
★3 (either term, 3-0-0). This course studies English translations of major works in modern Japanese literature. Authors covered will include Mishima, Kawabata, Soseki among others. No prerequisite. Note: This course will not fulfill the Language other than English requirement of the BA degree.

JAPAN 350 The Japanese Language in its Cultural Setting II
★6 (Intersession, abroad only 0-15L-0). Oral immersion course to be studied abroad. Designed for improvement of oral/aural skills at senior intermediate level. Prerequisite: One of JAPAN 200, 202 or consent of Department.

JAPAN 401 Advanced Japanese I
★3 (either term, 4-0-0). An advanced course designed to develop skills in spoken and written Japanese with special emphasis on the acquisition of an extensive vocabulary. Prerequisite: JAPAN 302.

JAPAN 402 Advanced Japanese II
★3 (either term, 4-0-0). A continuation of JAPAN 401. Prerequisite: JAPAN 401 or equivalent.

JAPAN 405 Japanese for Professional Use I
★3 (either term, 0-4L-0). An advanced course designed to develop communication skills with the main emphasis on technical and business Japanese. Prerequisite: JAPAN 302 or consent of Department.

JAPAN 406 Japanese for Professional Use II
★3 (either term, 0-4L-0). A continuation of JAPAN 40
Prerequisite: JAPAN 405 or consent of Department.

JAPAN 415 Haiku and the Japanese Poetic Tradition
★3 (either term, 3-0-0). The course will discuss
English the evolution of haiku, the work of the gre
masters of the seventeenth and eighteenth centur
and modern haiku. Prerequisite: JAPAN 321 or any 3
level literature course. Note: This course will not fu
the Language other than English requirement of the
degree.

JAPAN 416 Japanese Theatre from the Noh to the Avant-garde
★3 (either term, 3-0-0). The course will discuss,
English, forms of Japanese drama from the Noh
modern theatre. Prerequisite: JAPAN 321 or any 3
level literature or drama course. Note: This course v
not fulfill the Language other than English requirem
of the BA degree.

JAPAN 417 Women's Literature in Japan
★3 (either term, 3-0-0). Selections from the long tra
tion of literature written by women in Japan. Works
English translation will be drawn from fiction and diar
by 11th century court ladies as well as from the fict
and poetry of modern women authors. Note: This cour
will not fulfill the Language other than English requi
ment of the BA degree. Prerequisite: JAPAN 321 or 3
or any 300-level literature course.

JAPAN 425 The Structure of the Japanese Language
★3 (either term, 3-0-0). Discussion of the major lingu
tic features of the Japanese language. Lectures
English. Prerequisite: JAPAN 200 or 202 or consent
Department.

JAPAN 426 The History of the Japanese Language
★3 (either term, 3-0-0). The development of the Jap
nese language from its origin to the present day. Lectu
in English. Prerequisite: JAPAN 200 or 202 or conse
of Department.

JAPAN 431 Readings in Japanese Fiction
★3 (either term, 3-0-0). Reading and analysis in Jap
nese of selected works from early and modern era
Prerequisite: JAPAN 402, or consent of Department.

JAPAN 433 Readings in Japanese Drama
★3 (either term, 3-0-0). Reading and cultural analysis
Japanese of selected works from early and mode
eras. Prerequisite: JAPAN 402 or consent of Depa
ment.

JAPAN 435 Readings in Japanese Poetry
★3 (either term, 3-0-0). Reading and analysis in Jap
nese of selected works from early and modern era
Prerequisite: JAPAN 402, or consent of Department.

JAPAN 441 Classical Japanese I
★3 (either term, 3-0-0). Introduction to classical Jap
nese grammar through the reading of some of the easi
early literary texts. Prerequisite: JAPAN 402, or conse
of Department.

JAPAN 442 Classical Japanese II
★3 (either term, 3-0-0). Advanced reading in classic
Japanese literary, historical, and philosophical text
Prerequisite: JAPAN 441.

JAPAN 451 Advanced Readings in Japanese I
★3 (either term, 4-0-0). Advanced readings from new
papers, magazines, social commentary and literary pros
Prerequisite: JAPAN 402 or consent of Department.

JAPAN 452 Advanced Readings in Japanese II
★3 (either term, 4-0-0). A continuation of JAPAN 45
Prerequisite: JAPAN 451 or consent of Department.

JAPAN 453 Topics in Pre-Modern Drama
★3 (either term, 3-0-0). Prerequisite: JAPAN 321 or 4
or consent of Department.

JAPAN 454 Topics in Modern Literature
★3 (either term, 3-0-0). Prerequisite: JAPAN 322 or 4
or consent of Department.

JAPAN 461 Kanbun I
★3 (either term, 3-0-0). The reading of classical Chines
as Japanese. Prerequisite: JAPAN 442, or consent
Department.

JAPAN 462 Kanbun II
★3 (either term, 3-0-0). A continuation of Japan 46
Prerequisite: JAPAN 461.

JAPAN 481 Supervised Reading in Japanese I
★3 (either term, 3-0-0). Accelerated reading cours
primarily for senior and graduate students in speci
areas of need or interest. Prerequisite: Consent
Department.

JAPAN 482 Supervised Reading in Japanese II
★3 (either term, 3-0-0). A continuation of JAPAN 48
Prerequisite: JAPAN 481.

PAN 498 Research Methods I
3 (either term, 3-0-0). An introduction to the methods d techniques of scholarship together with their theoretical undations. Includes bibliographies, style sheets and actical methods of research in the field. Prerequisite: PAN 402 or consent of Department.

PAN 499 Research Methods II
3 (either term, 3-0-0). A continuation of JAPAN 498. erequisite: JAPAN 498.

PAN 525 Topics in Japanese Language and nguistics I
3 (either term, 3-0-0). Prerequisite: Consent of partment.

PAN 526 Topics in Japanese Language and nguistics II
3 (either term, 3-0-0). Prerequisite: JAPAN 525.

PAN 581 Supervised Study in the Japanese nguage I
3 (either term, 3-0-0). Prerequisite: Consent of partment.

PAN 582 Supervised Study in the Japanese nguage II
3 (either term, 3-0-0). A continuation of JAPAN 581. erequisite: JAPAN 581.

4.25.3 Reserve List

The Department is unable to offer the following urses regularly. Students should consult the Department d/or the University timetable.

PAN 215 History of the Japanese Writing System its Cultural Context
3 (either term, 3-0-0). This course will survey the olution of the Japanese writing system within the ntext of the literary forms and cultural background of y periods. Note: Not to be taken by students with edit in JAPAN 225 or 226. This course will not fulfill the nguage Other than English requirement of the BA gree.

PAN 315 Intermediate Kanji and Calligraphy
3 (either term, 3-0-0). A course designed to improve dents' ability to learn and retain kanji by intensive alysis of etymology and actual practice of calligraphy. erequisite: JAPAN 200 or 202 or consent of Depart- nt. Note: Not to be taken by students with credit in PAN 313 or 225 or 226. Not open to those with prior tive background in reading and writing kanji.

4.26 Latin

Department of Classics

e following table lists renumbered courses effective 90-91:

Old	New
TIN 351	LATIN 461

Note: For additional related courses see §44.11 and 4.20.

4.26.1 Junior Courses

TIN 100 Beginners' Latin
3 (3-0-1). Essentials of grammar, syntax, the reading easy Latin and prose composition. Secondary emphasis the connexion of English with Latin. Note: Students o have taken Latin 30 or equivalent should consult e Department adviser.

4.26.2 Senior Courses

Prerequisite for all 400-level Latin courses: LATIN 0 or consent of Department.

TIN 300 Latin Authors and Prose Composition
3 (3-0-1). Sight translation and principles of language. r students proceeding from LATIN 100. Note: Stu- nts who have taken Latin 30 or equivalent should nsult the Department adviser.

TIN 399 Readings in Latin Authors
3 (either term, 0-3s-0). Prerequisite: LATIN 300 or nsent of Department.

TIN 411 Latin Grammar and Style
3 (either term, 3-0-0). A study of Latin grammar and e writing of Latin prose.

TIN 451 Roman Comedy
3 (either term, 3-0-0). Selections from Plautus and erence. Note: Not open to students with credit in LATIN 1. Formerly LATIN 361.

LATIN 452 Silver Latin Authors
★3 (either term, 3-0-0).

LATIN 453 Cicero
★3 (either term, 3-0-0). Selections from Cicero's speeches, dialogues, and essays. Note: Not open to students with credit in LATIN 363. Formerly LATIN 363.

LATIN 454 Sallust
★3 (either term, 3-0-0). Selections from Sallust. Note: Not open to students with credit in LATIN 364. Formerly LATIN 364.

LATIN 456 Tacitus
★3 (either term, 3-0-0). Agricola and/or Germania. Note: Not open to students with credit in LATIN 366. Formerly LATIN 366.

LATIN 457 Vergil
★3 (either term, 3-0-0). Selections from the Aeneid. Note: Not open to students with credit in LATIN 367. Formerly LATIN 367.

LATIN 458 Roman Lyric Poetry
★3 (either term, 3-0-0). Selections from Horace and Catullus. Note: Not open to students with credit in LATIN 368. Formerly LATIN 368.

LATIN 459 Livy
★3 (either term, 3-0-0). Note: Not open to students with credit in LATIN 369. Formerly LATIN 369.

LATIN 460 Roman Satire
★3 (either term, 3-0-0). Selections from Horace, Juvenal, and others. Note: Not open to students with credit in LATIN 370. Formerly LATIN 370.

LATIN 461 Ovid
★3 (either term, 3-0-0). Prerequisite: LATIN 300 or consent of Department.

LATIN 467 Tacitus (later works)
★3 (either term, 3-0-0).

44.26.3 Honors and Graduate Courses

LATIN 502 Latin Epic and Didactic Poetry
★3 (either term, 3-0-0).

LATIN 504 Latin Drama
★3 (either term, 3-0-0).

LATIN 506 Latin Poetry
★3 (either term, 3-0-0).

LATIN 508 Latin Historiography
★3 (either term, 3-0-0).

LATIN 510 Latin Prose Writers
★3 (either term, 3-0-0).

LATIN 511 Latin Prose Composition and Unseens
★3 (either term, 3-0-0). Prerequisite: LATIN 411 or consent of Department.

LATIN 513 Topics in Latin Language
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

LATIN 562 Topics in Latin Literature
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

LATIN 599 Supervised Reading
★3 (either term, 3-0-0).

Note: Graduate Courses in Latin are listed in the Faculty of Graduate Studies and Research Section of the Calendar.

44.26.4 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department and/or the University timetable.

LATIN 412 Latin Composition and Style
★3 (either term, 3-0-0). A sequel to LATIN 411; includes practice in continuous prose composition. Prerequisite: LATIN 411.

LATIN 464 Cicero's Letters
★3 (either term, 3-0-0).

LATIN 466 Lucretius
★3 (either term, 3-0-0).

44.27 Linguistics

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
LING 201	LING 101	LING 416	LING 319
LING 202	LING 102	LING 441	LING 501
LING 303	LING 203	LING 442	LING 502
LING 382	LING 204	LING 443	LING 499
LING 408	LING 318	LING 450	LING 320
LING 411	LING 316	LING 471	LING 317
LING 414	LING 315		

44.27.1 Junior Courses

LING 101 Introduction to the Study of Language I
★3 (either term, 3-0-0). A general survey of the scientific study of language. Topics include attitudes and beliefs about language, origins of language, language compared to other animal communication systems, the physical basis of speech and language, language and society, language description.

LING 102 Introduction to the Study of Language II
★3 (either term, 3-0-0). A continuation of the general survey of the scientific study of language. Topics include the study of meaning, child language acquisition, and language change over time. Prerequisite: LING 101.

44.27.2 Senior Courses

LING 203 Introduction to Linguistics
★3 (either term, 3-2s-0). Methods for the analysis of language; phonetics, phonology (sound structure), morphology (word formation), syntax (sentence structure), semantics, and pragmatics. This course is a prerequisite for most other courses in the Department. Not normally open to students in the first year except with consent of Department.

LING 204 English Syntax
★3 (either term, 3-0-0). Transformational description of the syntax of modern English. Prerequisite: LING 101 or 203.

LING 305 Practical Phonetics
★3 (first term, 3-0-2). Recognizing, transcribing, and producing speech sounds, using several systems of phonetic notation; problems in phonetic analysis; techniques for describing the sound system of an unfamiliar language, working with a native informant.

LING 312 Introduction to Phonetics and Speech Science
★3 (either term, 3-0-0). Articulatory phonetics; anatomy of speech and hearing; interpretation of sound spectrograms; models of speech production and perception.

LING 315 Field Methods
★3 (either term, 3-0-3). Methods of eliciting and analysing language data from a speaker of an unfamiliar language. Prerequisite: LING 203; LING 305 recommended.

LING 316 Sociolinguistics
★3 (either term, 3-0-0). An examination of phonological, syntactic, and semantic variation in language systems in connection with extra-linguistic factors such as individual, social, or demographic differences. Prerequisite: LING 203 or consent of Department.

LING 317 History of Linguistics
★3 (either term, 3-0-0). Topics in the history of linguistic scholarship to the end of the nineteenth century. Prerequisite: LING 203.

LING 318 Development of Modern Linguistic Concepts
★3 (either term, 3-0-0). An examination of the fundamental concepts of twentieth-century linguistic thought: de Saussure, Sapir, Bloomfield, Firth, the Prague School, and others. Prerequisite: LING 203 or consent of Department.

LING 319 Child Language Acquisition
★3 (either term, 3-0-0). Basic issues in first language acquisition; theories, research methods, and major findings. Prerequisite: LING 203.

LING 320 Second Language Acquisition
★3 (either term, 3-0-0). Application of linguistics to theoretical issues in second-language acquisition: properties of language, problems of languages in contact, psycholinguistic aspects of bilingualism. Prerequisite or corequisite: LING 204.

LING 400 Psycholinguistics
★3 (either term, 3-0-3). Issues and methods involved in the experimental study of language functions: a survey of studies in experimental phonology, syntax, and semantics. There will be extensive laboratory practice in experimental methods. Prerequisite: LING 203 and 204; STAT 141 recommended.

LING 401 Semantics
★3 (either term, 3-0-0). The semantics of natural languages: sense, reference, speech acts, denotation, connotation, semantic fields, semantic roles, propositions, pragmatics. Prerequisite: LING 203 and 204, or consent of Department.

LING 405 Historical Linguistics I
★3 (either term, 3-0-0). Principles and methods in the study of language change. Prerequisite: LING 203 and 204.

LING 407 Linguistic Typology
★3 (either term, 3-0-0). A survey of the ways in which languages differ and the ways in which languages are the same. Prerequisite: LING 203 and 204 or consent of Department.

LING 409 Syntactic Theory
★3 (first term, 3-0-0). Syntactic analysis and argumentation; classical transformational theory and its extensions and revisions. Prerequisite: LING 203 and 204 or consent of Department.

LING 410 Phonological Theory
★3 (second term, 3-0-0). Generative phonological analysis: phonological rules, representations and related theoretical issues. Prerequisite: LING 203 and 204 or consent of Department.

LING 412 Acoustic Phonetics
★3 (either term, 3-0-3). Analysis of the articulatory, perceptual, and acoustic aspects of the speech signal. Demonstrations and experience in observing and measuring the acoustic aspects of speech. Prerequisite: LING 312.

LING 499 Special Topics in Linguistics
★3 (either term, 3-0-0). Designed to meet the needs of individual BA students in Linguistics. Prerequisite: Consent of Department.

LING 501 Honors Project I
★3 (either term, 3-0-0). Directed Honors thesis research. Prerequisite: Consent of Department. Note: Required of all BA (Honors) students in Linguistics in their final year.

LING 502 Honors Project II
★3 (either term, 3-0-0). Directed Honors thesis research. Prerequisite: Consent of Department. Note: Required of all BA (Honors) students in Linguistics in their final year.

Note: Linguistics graduate courses will be found in the Faculty of Graduate Studies and Research section of the Calendar (§204.45).

44.27.3 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department and/or the University timetable.

LING 406 Historical Linguistics II
★3 (second term, 3-0-0). Studies in historical linguistics. Prerequisite: LING 405.

44.28 Music

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
MUSIC 200	MUSIC 100	MUSIC 330	MUSIC 230
MUSIC 201	MUSIC 202	MUSIC 331	MUSIC 231
MUSIC 202	MUSIC 203	MUSIC 337	MUSIC 237
MUSIC 206	MUSIC 101	MUSIC 339	MUSIC 239
MUSIC 210	MUSIC 110	MUSIC 340	MUSIC 240
MUSIC 221	MUSIC 121	MUSIC 341	MUSIC 241
MUSIC 222	MUSIC 122	MUSIC 350	MUSIC 250
MUSIC 224	MUSIC 124	MUSIC 351	MUSIC 251
MUSIC 228	MUSIC 128	MUSIC 360	MUSIC 259/260
MUSIC 229	MUSIC 129	MUSIC 365	MUSIC 265
MUSIC 240	MUSIC 140	MUSIC 403	MUSIC 303
MUSIC 241	MUSIC 141	MUSIC 404	MUSIC 304
MUSIC 250	MUSIC 150	MUSIC 415	MUSIC 315
MUSIC 251	MUSIC 151	MUSIC 420	MUSIC 320
MUSIC 265	MUSIC 165	MUSIC 503	MUSIC 403
MUSIC 301	MUSIC 204	MUSIC 504	MUSIC 404
MUSIC 302	MUSIC 205	MUSIC 533	MUSIC 433
MUSIC 306	MUSIC 201	MUSIC 534	MUSIC 434
MUSIC 307	MUSIC 207	MUSIC 535	MUSIC 435
MUSIC 313	MUSIC 213	MUSIC 557	MUSIC 458
MUSIC 315	MUSIC 215	MUSIC 558	MUSIC 459
MUSIC 321	MUSIC 221	MUSIC 675	MUSIC 721
MUSIC 322	MUSIC 222	MUSIC 679	MUSIC 739
MUSIC 324	MUSIC 224	MUSIC 690	MUSIC 760
MUSIC 325	MUSIC 225	MUSIC 691	MUSIC 761

44.28.1 Junior Courses

MUSIC 100 Rudiments of Music
★3 (either term, 3-0-0). Fundamentals of music theory approached through aural and written training. Note: Not open to BMus (all routes) students.

MUSIC 101 Introduction to Music
★3 (either term, 3-0-0). A study of music literature with an emphasis on listening and analytical tools. A brief survey of the history of Western music will be included. Note: Not open to BMus (all routes) students.

MUSIC 121 Applied Music
★6 (2-0-0). Restricted to BMus students.

MUSIC 122 Second Practical Subject
★3 (1-0-0). Note: Admission restricted to BMus (all routes) students, and BEd students majoring in secondary music education. A single-term course offered over the full session. Prerequisite: Consent of Department.

MUSIC 124 Applied Music
★3 (1-0-0). For non-BMus students. Prerequisite: Consent of Department, based upon audition. Note: A single-term course offered over the full session.

MUSIC 128 Voice Class
★3 (0-2L-0). Fundamental vocal skills. Restricted to second study BMus (all routes) and BEd Music Major/ Minor students. A single-term course offered over the full session. Prerequisite: Consent of Department.

MUSIC 129 Fundamental Keyboard Skills
★3 (0-2L-0). Prerequisite or corequisite: MUSIC 151 or consent of Department. Note: A single-term course offered over the full session, restricted to BMus (all routes)students.

MUSIC 140 Choral Ensemble
★3 (0-4L-0). Prerequisite: Consent of Department, based upon audition. A single-term course offered over the full session.

MUSIC 141 Instrumental Ensemble
★3 (0-4L-0). Prerequisite: Consent of Department, based upon audition. A single-term course offered over the full session.

MUSIC 150 Music Theory I
★6 (3-0-0). A study of "common practice" harmony, including elementary analysis with preliminary discussion of elements of formal contrapuntal writing and chorale texture. Prerequisite: MUSIC 100 or satisfactory completion of Department of Music Theory Placement Examination for other than BMus students.

MUSIC 151 Aural and Keyboard Skills I
★3 (0-3L-0). The aural perception of materials covered in MUSIC 150 through the practice of sight-singing, dictation and keyboard harmony. Prerequisite: MUSIC 100 or satisfactory completion of Dept. of Music Theory Placement and Aural Skills Examinations for other than BMus students. Corequisite: MUSIC 150. Note: A single-term course offered over the full session.

MUSIC 165 Introduction to World Music
★3 (either term, 3-0-0). Note: Not to be taken by students with credit in MUSIC 309.

44.28.2 Senior Courses

Note: The ability to read music is required for all courses listed below.

MUSIC 201 Masterworks of Music
★3 (either term, 3-0-0). A study of great works of music, chosen to represent various media and historical styles. Prerequisite: MUSIC 101 or equivalent. Note: Not open to BMus (all routes) students.

MUSIC 202 History of Medieval and Renaissance Music
★3 (first term, 3-0-0). Prerequisite: MUSIC 100 or successful completion of Department of Music Theory Placement Examination.

MUSIC 203 History of Baroque Music
★3 (second term, 3-0-0). Prerequisite: MUSIC 100 or successful completion of Department of Music Rudiments Placement Examination.

MUSIC 204 History of Classic and Romantic Music
★3 (first term, 3-0-0). Prerequisite: MUSIC 100 or successful completion of Department of Music Rudiments Placement Examination.

MUSIC 205 History of Post-Romantic and Twentieth-Century Music
★3 (second term, 3-0-0). Prerequisite: MUSIC 100 or successful completion of Department of Music Rudiments Placement Examination.

MUSIC 207 Instruments for Children
★3 (either term, 3-0-0). Laboratory experience with recorder ensemble, small winds, chording and percussion instruments. Prerequisite: MUSIC 150 and 151.

MUSIC 209 Woodwind Techniques I
★3 (first term, 3-0-0). Practical and theoretical instruction on single-reed instruments. Prerequisite: MUSIC 150 and 151. Corequisite or prerequisite MUSIC 121, 124, or equivalent. Restricted to BMus (all routes) and BEd Music Major/MInor students.

MUSIC 211 Woodwind Techniques II
★3 (second term, 3-0-0). Practical and theoretical instruction on flute, oboe and bassoon. Prerequisite: MUSIC 209. Note: Restricted to BMus (all routes) and BEd Music Major/Minor students.

MUSIC 213 History of Jazz
★3 (either term, 3-0-0). An historical survey of the m evolutionary trends in jazz through analysis of distinct jazz styles and listening to recorded examples. Prere uisite: MUSIC 100 or satisfactory completion of Department of Music Theory Placement Examination other than BMus (all routes) students.

MUSIC 215 Canadian Music
★3 (either term, 3-0-0). The history of music in Can from colonial times to the present. Prerequisite: MU 101 or equivalent.

MUSIC 216 Brass Techniques I
★3 (first term, 3-0-0). Practical and theoretical instr tion on trumpet. Prerequisite: MUSIC 150 and 1 Corequisite or prerequisite MUSIC 121, 124, or equi lent. Note: Restricted to BMus (all routes) and B Music Major/Minor students.

MUSIC 217 Brass Techniques II
★3 (second term, 3-0-0). Practical and theoretical struction on brass instruments. Prerequisite: MUSIC 2 or proficiency examination. Note: Restricted to BMus routes) and BEd Music Major/ Minor students.

MUSIC 218 String Techniques I
★3 (first term, 3-0-0). Practical and theoretical instr tion on violin and viola. Prerequisite: MUSIC 1 and 151.

MUSIC 219 String Techniques II
★3 (second term, 3-0-0). Practical and theoretical instruct on cello and string bass. Prerequisite: MUSIC 218 proficiency examination.

MUSIC 220 Percussion Techniques
★3 (first term, 3-0-0). Practical and theoretical instruct on percussion instruments. Prerequisite: MUSIC 150 151. Corequisite or prerequisite: MUSIC 121, 124, equivalent. Restricted to BMus (all routes) and BEd Mu Major/Minor students.

MUSIC 221 Applied Music
★6 (2-0-0). Restricted to BMus (Honors Performan students.

MUSIC 222 Second Practical Subject
★3 (1-0-0). Note: Admission restricted to BMus routes) students , and BEd students majoring in seconc music education. Note: A single-term course offe over the full session. Prerequisite: Consent of Dep ment.

MUSIC 224 Applied Music
★3 (1-0-0). For non BMus students. Prerequis MUSIC 121 or 124 or equivalent. Note: A single-t course offered over the full session.

MUSIC 225 Applied Music
★6 (2-0-0). Restricted to BMus, BMus Honors (Hist and Literature), BMus Honors (Theory and Comp tion), and BMus (Performance) students. Prerequis MUSIC 121 or 124 or equivalent.

MUSIC 230 Choral Techniques and Interpretation
★3 (first term, 3-0-0). Prerequisite: MUSIC 150 and 1 or equivalent. Note: Restricted to BMus (all routes) BEd Music Major/ Minor students.

MUSIC 231 Choral Techniques and Interpretation
★3 (second term, 3-0-0). Prerequisite: MUSIC 150 151, or equivalent. Note: Restricted to BMus (all rou and BEd Music Major/ Minor students.

MUSIC 237 Tonal Counterpoint
★3 (either term, 3-0-0). Elementary tonal counterpoi two and three parts. Prerequisite: MUSIC 150.

MUSIC 239 Vocal and Instrumental Chamber Ensemble
★3 (0-2L-0). Prerequisite: Consent of Department, ba upon audition. A single-term course offered over the session.

MUSIC 240 Vocal Ensemble
★3 (0-4L-0). Prerequisite: Consent of Department, ba upon audition. A single-term course offered over the session.

MUSIC 241 Instrumental Ensemble
★3 (0-4L-0). Prerequisite: Consent of Department, ba upon audition. A single-term course offered over the session.

MUSIC 250 Music Theory II
★6 (3-0-0). A continuation of the study of "com practice" harmony, including the larger forms and wr in a variety of textures. Prerequisite: MUSIC 150.

MUSIC 251 Aural and Keyboard Skills II
★3 (0-3L-0). The aural perception of materials cove in MUSIC 250 through the practice of sight-sing dictation and keyboard harmony. Note: A single-t course offered over the full session. Prerequisite: MU 151. Corequisite: MUSIC 250 or consent of Departm

MUSIC 259 Introduction to Composition
★3 (first term, 3-0-0). Prerequisite: MUSIC 150 and or equivalent.

MUSIC 260 Composition
★3 (second term, 3-0-0). Prerequisite: MUSIC 259.

MUSIC 265 Musical Cultures of the World
★3 (either term, 3-0-0). Prerequisite: MUSIC 101 or 165 or consent of Department.

MUSIC 303 Piano Pedagogy I
★3 (first term, 3-0-0). Prerequisite: MUSIC 221, 224, 225, or equivalent.

MUSIC 304 Piano Pedagogy II
★3 (second term, 3-0-0). Prerequisite: MUSIC 303.

MUSIC 315 Introduction to Conducting
★3 (either term, 3-0-0). Prerequisite: MUSIC 150, and 151, or equivalents.

MUSIC 320 Diction for Singers
★3 (0-2L-0). Prerequisite: MUSIC 121 (Voice) or equivalent. Note: A single-term course offered over the full session.

MUSIC 326 Master Class in Applied Music
★3 (3-0-0). Note: To be offered only during Intersessions. Prerequisite: MUSIC 121 or equivalent, and consent of Department.

MUSIC 327 Master Class in Applied Music
★3 (3-0-0). Note: To be offered only during Intersession. Prerequisite: MUSIC 121 or equivalent, and consent of Department.

MUSIC 328 Piano Accompaniment
★3 (0-2L-0). Note: A single term course offered over the full session. Prerequisite: MUSIC 121 and consent of Department.

MUSIC 342 Specialized Ensemble I
★3 (0-4L-0). Prerequisite: Consent of Department, based upon audition. Note: A single-term course offered over the full session.

MUSIC 343 Collegium Musicum
★3 (0-4L-0). The performance and study of early music. Prerequisite: Consent of Department, based upon audition. Note: A single-term course offered over the full session.

MUSIC 400 Studies in the History of Opera
★3 (either term, 3-0-0). Prerequisite: MUSIC 203, 204, and 205.

MUSIC 401 Studies in the History of the Symphony
★3 (either term, 3-0-0). Prerequisite: MUSIC 204 and 205.

MUSIC 403 Piano Literature I
★3 (first term, 3-0-0). Prerequisite: Consent of Department.

MUSIC 404 Piano Literature II
★3 (second term, 3-0-0). Prerequisite: Consent of Department.

MUSIC 405 Studies in Medieval and Renaissance Music
★3 (either term, 3-0-0). Prerequisite: MUSIC 201 or 202.

MUSIC 406 Liturgics and Service Improvisation
★6 (0-3L-0). Prerequisite: MUSIC 221 or 224 (Organ) and consent of Department.

MUSIC 407 Studies in the History of the Concerto
★3 (either term, 3-0-0). Prerequisite: MUSIC 203, 204, and 205.

MUSIC 408 Studies in the History of Chamber Music
★3 (either term, 3-0-0). Prerequisite: MUSIC 203, 204, and 205.

MUSIC 409 Viola Techniques for Violinists
★3 (1-0-0). Note: A single-term course offered over the full session. Prerequisite: MUSIC 221, or 224 (violin) or equivalent.

MUSIC 410 Studies in Musical Style I
★3 (either term, 3-0-0). Forms, techniques, and styles studied through representative composers and genres of selected style periods. Prerequisite: Consent of Department.

MUSIC 411 Studies in Musical Style II
★3 (either term, 3-0-0). Forms, techniques, and styles studied through representative composers and genres of selected style periods. Prerequisite: Consent of Department.

MUSIC 413 Studies in the History of Jazz
★3 (either term, 3-0-0). Prerequisite: MUSIC 213.

MUSIC 416 Instrumental Conducting
★3 (second term, 3-0-0). Prerequisite: MUSIC 315.

MUSIC 417 Choral Conducting
★3 (second term, 3-0-0). Prerequisite: MUSIC 315.

MUSIC 421 Applied Music
★6 (2-0-0). Restricted to BMus (Honors Performance) students.

MUSIC 422 Second Practical Subject
★3 (1-0-0). Note: A single-term course offered over the full session. Admission restricted to BMus (all routes) students and BEd students majoring in secondary music education. Prerequisite: Consent of Department.

MUSIC 424 Applied Music
★3 (1-0-0). For non-BMus students. Prerequisite: MUSIC 224 or equivalent. Note: A single-term course offered over the full session.

MUSIC 425 Applied Music
★6 (2-0-0). Restricted to BMus, BMus Honors (History and Literature), BMus Honors (Theory and Composition), and BMus (Performance) students. Note: Students intending to enroll in MUSIC 526 are required to have successfully presented a public recital while enrolled in MUSIC 425.

MUSIC 427 Continuo Realization
★3 (either term, 0-3L-0). Prerequisite: MUSIC 250, 251 and consent of the instructor.

MUSIC 430 Vocal Coaching
★3 (0-3L-0). Coaching of vocal repertoire for individuals and ensembles. Required of students in BMus Honors (Performance, Voice) and BMus (Performance), and open to others by audition. Prerequisite: MUSIC 320 or consent of Department. Note: A single-term course offered over the full session.

MUSIC 431 Band Techniques
★3 (either term, 0-3L-0). Musical and practical aspects of band conducting. Prerequisite: A conducting course or substantial conducting experience.

MUSIC 432 Wind Instrument Pedagogy
★3 (either term, 3-0-0). Prerequisite: MUSIC 221, 224, 225, or equivalent.

MUSIC 433 Organ and Harpsichord Literature to 1750.
★3 (first term, 3-0-0). Prerequisite: Consent of Department.

MUSIC 434 Organ Literature, 1750-Present
★3 (second term, 3-0-0). Prerequisite: Consent of Department.

MUSIC 435 Vocal Pedagogy
★3 (either term, 3-0-0). Prerequisite: MUSIC 221, 224, 225, or equivalent.

MUSIC 437 Modal Counterpoint
★3 (either term, 3-0-0). Prerequisite: MUSIC 150. Note: Not open to students with credit in MUSIC 338.

MUSIC 438 Eighteenth-Century Fugue
★3 (either term, 3-0-0). Prerequisite: MUSIC 237. Not open to students with credit in MUSIC 545.

MUSIC 439 Vocal and Instrumental Chamber Ensemble
★3 (0-2L-0). Prerequisite: Consent of Department, based upon audition. A single-term course offered over the full session.

MUSIC 440 Vocal Ensemble
★3 (0-4L-0). Prerequisite: Consent of Department, based upon audition. A single-term course offered over the full session.

MUSIC 441 Instrumental Ensemble
★3 (0-4L-0). Prerequisite: Consent of Department, based upon audition. A single-term course offered over the full session.

MUSIC 442 Specialized Ensemble II
★3 (0-4L-0). Prerequisite: Consent of Department based upon audition. Note: A single-term course offered over the full session.

MUSIC 443 Collegium Musicum
★3 (0-4L-0). Prerequisite: Consent of Department based upon audition. Note: A single-term course offered over the full session.

MUSIC 444 Electroacoustic Music I
★3 (first term, 0-3L-0). An introduction to the history, development and techniques of electronic music. Prerequisite: MUSIC 205, 250 and 251.

MUSIC 445 Electroacoustic Music II
★3 (second term, 0-3L-0). Prerequisite: MUSIC 444 and consent of Department.

MUSIC 450 Music Theory III
★6 (3-0-0). A study of the materials of twentieth-century music. Prerequisite: MUSIC 250.

MUSIC 451 Aural and Keyboard Skills III
★3 (0-3L-0). A continuation of MUSIC 251, including non-tonal idioms and score-reading. Prerequisite: MUSIC 250 and 251. Note: A single-term course offered over the full session.

MUSIC 457 String Literature I
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

MUSIC 458 String Literature II
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

MUSIC 459 String Pedagogy
★3 (either term, 3-0-0). Prerequisite: MUSIC 221, 224, 225, or equivalent.

MUSIC 460 Composition
★6 (3-0-0). A sequent course to MUSIC 259 and 260 with emphasis on the study of, and writing in larger forms. Note: Public performance of works completed in the course will be expected.

MUSIC 461 Analysis of Tonal Music
★3 (either term, 3-0-0). Prerequisite: MUSIC 250.

MUSIC 462 Fundamentals of Orchestration and Arranging
★3 (first term, 3-0-0). Prerequisite: MUSIC 250/251 or equivalent.

MUSIC 463 Orchestration
★3 (second term, 3-0-0). Prerequisite: MUSIC 462.

MUSIC 465 Area Studies in Ethnomusicology
★3 (either term, 3-0-0). Prerequisite: MUSIC 265.

MUSIC 466 Topics in Ethnomusicology
★3 (either term, 3-0-0). Prerequisite: MUSIC 265.

MUSIC 471 The Music of Bach
★3 (either term, 3-0-0). Prerequisite: MUSIC 201 or equivalent.

MUSIC 473 The Music of Mozart
★3 (either term, 3-0-0). Prerequisite: MUSIC 201 or equivalent.

MUSIC 475 The Music of Beethoven
★3 (either term, 3-0-0). Prerequisite: MUSIC 201 or equivalent.

MUSIC 477 The Music of Stravinsky
★3 (either term, 3-0-0). Prerequisite: MUSIC 201 or equivalent.

MUSIC 485 Symphonic Music
★3 (either term, 3-0-0). Prerequisite: MUSIC 201 or equivalent. Note: Not open to BMus (all routes), or BA Honors (Music) students.

MUSIC 486 Vocal Music
★3 (either term, 3-0-0). Prerequisite: MUSIC 201 or equivalent. Note: Not open to BMus (all routes), or BA Honors (Music) students.

MUSIC 501 Music History Seminar I
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

MUSIC 502 Music History Seminar II
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

MUSIC 505 Bibliography and Methods of Research
★3 (either term, 3-0-0). Prerequisite: MUSIC 205.

MUSIC 506 Tutorial Study
★3 (either term, 3-0-0). Independent research in a specific area of the student's interest. Prerequisite: MUSIC 205.

MUSIC 508 Seminar in Canadian Music
★3 (either term, 0-3s-0). Prerequisite: MUSIC 205.

MUSIC 509 Seminar in American Music
★3 (either term, 0-3s-0). Prerequisite: MUSIC 205.

MUSIC 521 Applied Music
★6 (2-0-0). Restricted to BMus (Honors Performance) students. Note: Formerly part of MUSIC 523 and 525.

MUSIC 522 Second Practical Subject
★3 (1-0-0). Note: A single-term course offered over the full session. Admission restricted to BMus (all routes) students and BEd students majoring in secondary music education. Prerequisite: Consent of Department.

MUSIC 524 Applied Music
★3 (1-0-0). For non-BMus students. Note: A single-term course offered over the full session. Prerequisite: MUSIC 424 or equivalent.

MUSIC 525 Applied Music
★6 (2-0-0). Restricted to BMus, BMus Honors (History and Literature), and BMus Honors (Theory and Composition) and BMus (Performance) students.

MUSIC 526 Senior Recital
★3 Corequisite: MUSIC 521 or 525. A formal recital prepared under the guidance of the applied music instructor. Required of students in the BMus (Honors) Performance program and BMus (Performance) program and also available to BMus students with consent of Department. Note: A single-term course offered over the full session.

MUSIC 531 History of Organ Building and Design
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

MUSIC 539 Vocal and Instrumental Chamber Ensemble
★3 (0-2L-0). Prerequisite: Consent of Department, based upon audition. A single-term course offered over the full session.

MUSIC 540 Vocal Ensemble
★3 (0-4L-0). Prerequisite: Consent of Department, based upon audition. A single-term course offered over the full session.

MUSIC 541 Instrumental Ensemble
★3 (0-4L-0). Prerequisite: Consent of Department, based upon audition. A single-term course offered over the full session.

MUSIC 542 Specialized Ensemble III
★3 (0-4L-0). A single-term course offered over the full session. Prerequisite: Consent of Department based upon audition.

MUSIC 543 Collegium Musicum
★3 (0-4L-0). Prerequisite: Consent of Department based upon audition. Note: A single-term course offered over the full session.

MUSIC 544 Advanced Harmony
★3 (either term, 3-0-0). Prerequisite: MUSIC 250.

MUSIC 560 Composition
★6 (3-0-0). A sequent course to MUSIC 460 with emphasis on the study of, and writing for, larger groups of voices and instruments. Note: Public performance of works completed in the course will be expected.

MUSIC 561 Advanced Orchestration
★3 (either term, 3-0-0). Ranges, tonal qualities, technical peculiarities relating to percussion instruments, and the less common wind instruments of the orchestra. Scoring for small groups and for symphony orchestra. Prerequisite: MUSIC 463 or equivalent.

MUSIC 571 Score Reading and Orchestral Literature
★3 (0-2L-0). Note: A single-term course offered over the full session. Prerequisite: MUSIC 421, 450 and 451.

MUSIC 581 Trends In Avant Garde Music
★3 (either term, 3-0-0). Includes studies in electronic music. Prerequisite or corequisite: MUSIC 450.

Note: For graduate courses in Music, refer to §204.55.2 of this Calendar.

44.28.3 Service Courses

MUSIC 110 Foundations of Music
★6 (0-5L-0). The development of a musical repertoire and knowledge of basic content appropriate for teachers. Note: Limited to students in the Faculty of Education.

MUSIC 305 Musical Literature for Children
★3 (second term, 3-0-0). Survey, selection, and use of recorded materials, films, film strips, and books about music and musicians. Prerequisite: ED EL 241 or 225 or 341.

44.29 Native Studies

School of Native Studies

The Faculty of Arts has approved a number of NS courses which may be used to complete a second subject in the BA (AR20). When used in this way, they will be counted as Arts courses. Students should consult the School of Native Studies to see when these courses are being offered.

44.30 Norwegian

Department of Germanic Languages

The following table lists renumbered courses effective 1990-91:

Old	New
SCAND 100	NORW 100
SCAND 300	NORW 200
SCAND 400	NORW 400

44.30.1 Junior Courses

NORW 100 Elementary Norwegian
★6 (3-0-2). Designed to give basic practical skill in everyday spoken and written Norwegian. The oral approach, using the laboratory, is followed.

44.30.2 Senior Courses

NORW 200 Second-Year Norwegian
★6 (3-0-1). Reading and study of selected texts in Norwegian literature and culture. Composition and conversation. Prerequisite: NORW 100 or consent of Department.

NORW 400 Advanced Norwegian Grammar and Stylistics
★6 (3-0-0). Theoretical and applied study of complex areas of the Norwegian language, style, and idiomatic usage. Prerequisite: NORW 200 or consent of Department.

44.31 Philosophy

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
PHIL 221	PHIL 121*	PHIL 239	PHIL 139*
PHIL 222	PHIL 122*	PHIL 240	PHIL 140
PHIL 230	PHIL 130		

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
PHIL 121	PHIL125	PHIL 456	PHIL 470
PHIL 122	PHIL 120	PHIL 457	PHIL 490
PHIL 139	PHIL 160	PHIL 459	PHIL 432
PHIL 321	PHIL 200	PHIL 460	PHIL 436
PHIL 322	PHIL 301	PHIL 461	PHIL 434
PHIL 323	PHIL 205	PHIL 462	PHIL 423
PHIL 324	PHIL 326	PHIL 464	PHIL 492
PHIL 326	PHIL 291	PHIL 467	PHIL 443
PHIL 327	PHIL 392	PHIL 469	PHIL 400
PHIL 331	PHIL 293	PHIL 470	PHIL 484
PHIL 332	PHIL 274	PHIL 471	PHIL 486
PHIL 333	PHIL 270	PHIL 473	PHIL 487
PHIL 334	PHIL 370	PHIL 475	PHIL 401
PHIL 335	PHIL 230	PHIL 478	PHIL 405
PHIL 336	PHIL 330	PHIL 481	PHIL 446
PHIL 339	PHIL 250	PHIL 483	PHIL 472
PHIL 340	PHIL 350	PHIL 490	PHIL 420
PHIL 342	PHIL 336	PHIL 491	PHIL 422
PHIL 345	PHIL 240	PHIL 496	PHIL 396
PHIL 347	PHIL 340	PHIL 497	PHIL 397
PHIL 349	PHIL 280	PHIL 502	PHIL 530
PHIL 350	PHIL 380	PHIL 504	PHIL 532
PHIL 351	PHIL 282	PHIL 505	PHIL 534
PHIL 353	PHIL 395	PHIL 506	PHIL 536
PHIL 355	PHIL 266	PHIL 508	PHIL 542
PHIL 357	PHIL 290	PHIL 509	PHIL 543
PHIL 361	PHIL 322	PHIL 510	PHIL 545
PHIL 364	PHIL 310	PHIL 511	PHIL 546
PHIL 365	PHIL 316	PHIL 512	PHIL 593
PHIL 371	PHIL 384	PHIL 516	PHIL 547
PHIL 382	PHIL 272	PHIL 519	PHIL 594
PHIL 383	PHIL 372	PHIL 522	PHIL 550
PHIL 385	PHIL 262	PHIL 524	PHIL 570
PHIL 386	PHIL 264	PHIL 526	PHIL 580
PHIL 387	PHIL 260	PHIL 528	PHIL 595
PHIL 389	PHIL 220	PHIL 531	PHIL 591
PHIL 409	PHIL 320	PHIL 536	PHIL 592
PHIL 410	PHIL 426	PHIL 545	PHIL 500
PHIL 422	PHIL 494	PHIL 552	PHIL 495
PHIL 423	PHIL 496	PHIL 553	PHIL 497
PHIL 431	PHIL 493	PHIL 554	PHIL 552
PHIL 433	PHIL 427	PHIL 556	PHIL 544
PHIL 435	PHIL 421	PHIL 557	PHIL 590
PHIL 438	PHIL 411	PHIL 559	PHIL 516
PHIL 440	PHIL 410	PHIL 561	PHIL 520
PHIL 441	PHIL 444	PHIL 563	PHIL 501
PHIL 444	PHIL 445	PHIL 564	PHIL 510
PHIL 445	PHIL 442	PHIL 568	PHIL 505
PHIL 448	PHIL 425	PHIL 570	PHIL 526
PHIL 450	PHIL 480	PHIL 580	PHIL 572
PHIL 451	PHIL 465	PHIL 581	PHIL 596
PHIL 452	PHIL 416	PHIL 582	PHIL 597
PHIL 453	PHIL 430	PHIL 676	PHIL 696
PHIL 454	PHIL 450	PHIL 677	PHIL 697

Philosophy (St Joseph's College)

The following table lists renumbered courses effective 1990-91:

Old New	Old New		
PHIL 217	PHIL 117*	PHIL 300	PHIL 200*
PHIL 218	PHIL 118*	PHIL 301	PHIL 201*

*See following table for subsequent changes in these course numbers.

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
PHIL 117	PHIL 139	PHIL 303	PHIL 279
PHIL 118	PHIL 199	PHIL 305	PHIL 259
PHIL 302	PHIL 209	PHIL 306	PHIL 399
PHIL 200	PHIL 239	PHIL 401	PHIL 439
PHIL 201	PHIL 249	PHIL 403	PHIL 449
PHIL 304	PHIL 349	PHIL 404	PHIL 499

Note: For courses offered by St Joseph's College, see §44.31.3.

44.31.1 Junior Courses

Note concerning introductory logic courses: The Department offers three logic courses which have no prerequisites. PHIL 125 may provide some introduction to formal logic, but emphasizes the analysis of inform arguments as they occur in everyday contexts. PHIL 1 is an introduction to formal logic designed for studen with no familiarity with formal reasoning; PHIL 220 is intensive course in formal logic designed for Hono students and students with some previous backgrou in logic or with a good facility for formal reasonin PHIL 120 and PHIL 125 can both be taken for credit or with the permission of the Department; while PHIL 1 and PHIL 220 may both be taken for credit, studen who have a good facility for formal reasoning a encouraged to take PHIL 220 as their first course formal logic. Students who are uncertain as to whi introductory logic course would be most appropriate them are strongly encouraged to enquire at the Depa ment office for further guidance.

PHIL 120 Introduction to Symbolic Logic
★3 (either term, 3-0-0). A thorough study of sententi logic, including translation, semantics, decision procedure and natural deduction systems. An introduction to pred cate logic with indentity (the formal language of high mathematics), concentrating on translation. (See no concerning Logic courses above.) Note: Students m receive credit in both PHIL 120 and PHIL 125 only wi the permission of the Department.

PHIL 125 Practical Logic
★3 (either term, 3-0-0). Elementary methods and prin ples for analyzing arguments. Topics may include info mal fallacies, introduction to scientific method, elementa statistical reasoning, elementary propositional logic, r tional decision procedures. (See note concerning Log courses above). Note: Students may receive credit both PHIL 120 and PHIL 125 only with the permission the Department.

PHIL 130 Problems of Philosophy
★3 (either term, 3-0-0). Some of the central issues philosophy. Topics may include freedom and determi ism, the concept of a person, mind and body, th existence of God, the nature of goodness, justice a value, the nature of knowledge, belief and truth, th problems of scepticism and knowledge of ourselve other persons and the external world.

PHIL 140 Introduction to Western Philosophy
★6 (3-0-0). An introduction to the main problems a theories that have dominated philosophical thought the Western world, through study and critical discussio of selected philosophical classics. Readings will inclu Plato's *Republic* and Descartes' *Meditations* and a m jor work of Hobbes, Locke, Berkeley or Hume.

PHIL 160 Philosophical Analysis of Contemporary Issues
★3 (either term, 3-0-0). Philosophical analysis of co temporary problems of social concern. Topics may i clude minority and majority rights, cultural preservatio war and violence, censorship, medical ethics, abortio sexual equality, our place in the natural environment.

44.31.2 Senior Courses

Note: There are no formal prerequisites for 20 level courses; however, students will find it valuable have taken PHIL 130 or 140 prior to taking any 200-lev course except PHIL 220, and/or PHIL 160 prior to takin any course in the 250-279 range.

PHIL 200 Introduction to Metaphysics
★3 (either term, 3-0-0). Basic questions concerning th nature of reality. Topics may include existence, materia ism and idealism, freedom and determinism, appea ance and reality, causality, identity, time and spac universals and particulars.

PHIL 205 Introduction to Philosophy of Mind
★3 (either term, 3-0-0). Approaches to the question what it means to be a person and have a mind. Th relationship of philosophical ideas to scientific investig tions of mental phenomena will be studied. Topics ma include the mind-body relationship, personal identit memory, imagination, intention and the will, desir emotion and sensation.

PHIL 210 The Nature of Science
★3 (either term, 3-0-0). A broadly based introduction the intellectual, cultural, and social dimensions of scienc and its implications for traditional conceptions of humanit Topics may include the claim of science to be rationa the nature of the Newtonian revolution in physical sc ence, Darwinism, and conceptions of humankind.

PHIL 220 Symbolic Logic
★3 (either term, 3-0-0). A brief survey of sentential log followed by an intensive study of predicate logic. Topic include translation, semantics, decision procedures, natur deduction systems, recursive definitions and mathemat cal induction. (See note concerning logic courses above

PHIL 230 Pre-Socratics to Plato
★3 (either term, 3-0-0). The thought of the ancie Greek world from its beginnings up to and includin Plato.

PHIL 240 Philosophy from Descartes to Kant
3 (either term, 3-0-0). The major movements from the eginnings of modern philosophy up to and including ant; philosophers such as Descartes, Leibniz, Spinoza, ocke, Berkeley and Hume.

PHIL 250 Introduction to Ethics
3 (either term, 3-0-0). An examination of questions of ght and wrong, good and evil, and reasons for action, rough study of the ethical theories of philosophers uch as Plato, Aristotle, Hobbes, Kant, and Mill.

PHIL 260 Professional Ethics
3 (either term, 3-0-0). Introduction to principled ethical inking in a professional context. Ethical issues in ommon to different professions are examined in rela- on to ethical theory. Topics include professionalism elf, honesty and consent, privacy and confidentiality, ocial responsibility, and professional ethical codes.

PHIL 262 Ethical Theory and Business
3 (either term, 3-0-0). Topics include economic justice, ocial and environmental responsibility of corporations, onflict of interest, conflicts between rights and profits.

PHIL 264 Philosophy and Medicine
3 (either term, 3-0-0). A philosophical examination of oncepts and issues central to medical knowledge and ractice. Topics may includes: rights and responsibilities f patients and medical personnel, passive and actual uthanasia, abortion, medical research and experimen- tion, disclosure of diagnosis and risks, death and uffering.

PHIL 266 Philosophy of the Environment
3 (either term, 3-0-0). Designed to bring traditional and ontemporary philosophical theories and methods to ear on issues raised by our relationship to the environ- ent. The ethical, aesthetic, or metaphysical ramifica- ons of certain major environmental problems, such as ollution, overpopulation, or resource exhaustion will be onsidered.

PHIL 270 Introduction to Political Philosophy
3 (either term, 3-0-0). Concentration on such central gures in the history of political philosophy such as lato, Aristotle, Hobbes, Locke, Rousseau, and Marx. opics include the nature and justification of political bligation, freedom and authority, and the social con- act.

PHIL 272 Philosophy of Law: Social Issues
3 (either term, 3-0-0). Philosophical problems arising t the interface between the legal system and wider ocial life: problems of legal liberty (harm as the limit of gal liberty, legal paternalism, legal moralism), the ature of legal liability/responsibility (the mental element legal liability, the nature of causation in law), civil isobedience, punishment.

PHIL 274 Feminist Issues in Political and Social Philosophy
3 (either term, 3-0-0). An introduction to feminist sues in current social and political philosophy. Comparison nd evaluation of various schools of current feminist ought such as liberal feminism, radical feminism, arxist feminism, and socialist feminism.

PHIL 280 Aesthetics: Philosophy of Art
3 (either term, 3-0-0). An introduction to some of the aditional theories, such as the expressionist and the rmalist theories, which investigate the nature and unction of the arts. The nature of aesthetic experience ill also be considered.

PHIL 282 The Arts and Society
3 (either term, 3-0-0). An introduction to the philo- ophical questions and problems relating to the place nd importance of art and the artists in society. Issues uch as censorship of the arts and the political role of he arts will be considered.

PHIL 290 Introduction to Philosophy of Religion
3 (either term, 3-0-0). General topics in the Philosophy f Religion, which may include the concept of 'religion,' he existence of God, meaning and intelligibility in eligious language, religion and morality, implications of he social scientific study of religion.

PHIL 291 Existentialism
3 (either term, 3-0-0). An introduction to the back- round and main themes of existentialist philosophy. uthors such as Kierkegaard, Nietzsche, Heidegger, nd Sartre are considered.

PHIL 293 Introduction to Eastern Philosophy
3 (either term, 3-0-0). An introduction to one or more f the Eastern systems of philosophy: Buddhism, Daoism, Confucianism, Shintoism, Hinduism, Jainism or one of he Hindu schools, etc.

PHIL 301 Epistemology
3 (either term, 3-0-0). A study of such central topics in he theory of knowledge as truth and rationality, scepti- ism and the limits of knowledge, relativism and the bjectivity of knowledge, the role of perception, memory nd reason as sources of knowledge. Prerequisite: One of PHIL 130, 140, 200, 205, 240 or consent of Department.

PHIL 305 Advanced Philosophy of Mind
★3 (either term, 3-0-0). Philosophical topics arising out of recent investigations into the nature of mind and thinking. Topics may include the computational model of mind, levels of explanation in psychology, the relationship between the mind and external reality, the relationship between the mind and the brain. Prerequisite: PHIL 205 or consent of Department.

PHIL 310 Philosophy of Science
★3 (either term, 3-0-0). An introduction to the central issues in contemporary philosophy of science. Topics may include theory evaluation (inductive logic, confirmation theory, the historical approach), explanation, inter-theoretic reduction, the nature of scientific law. Prerequisite: One of PHIL120, 210, 220 or consent of Department.

PHIL 316 Philosophy of the Social Sciences
★3 (either term, 3-0-0). A critical examination of the theories underlying the various human sciences and an evaluation of the methods appropriate to such disciplines. Consideration will be given to movements such as positivism, ethnomethodology and critical theory, and to figures such as Habermas, Popper, and Winch. Prerequisite: One of PHIL 130, 140, 205, 210, 270, 274 or consent of Department.

PHIL 320 Metalogic
★3 (either term, 3-0-0). The theoretical study of formal systems of logic. Topics include formal axiomatic systems, formal syntax and semantics, soundness and completeness proofs for both sentential and predicate logic. Prerequisite: PHIL 220 or consent of Department.

PHIL 322 Inductive Logic
★3 (either term, 3-0-0). An introduction to inductive logic and the philosophical foundations of probabilistic reasoning. Prerequisite: One of PHIL 120, 220, 310 or consent of Department.

PHIL 326 Philosophy of Language
★3 (either term, 3-0-0). Contemporary views on the nature of language. Topics may include the structure of language, language learning, the process of communication, and the nature of meaning and truth. Prerequisite: One of PHIL 120, 200, 205, 220, 301 or consent of Department.

PHIL 330 Aristotle and Hellenistic Philosophy
★3 (either term, 3-0-0). The thought of the ancient Greek world from Aristotle into the Hellenistic period. Prerequisite: One of PHIL 140, 230 or consent of Department.

PHIL 336 Early Medieval Philosophy
★3 (either term, 3-0-0). Major philosophers in the Christian and Islamic traditions up to the re-introduction of Aristotlean texts early in the 12th century. Prerequisite: PHIL 230 or consent of Department.

PHIL 340 Philosophy from Kant to Russell
★3 (either term, 3-0-0). The major movements from Kant to the beginning of the twentieth century. In addition to Kant, philosophers such as Schopenhauer, Hegel, Kierkegaard, Marx, Nietzsche, Mill, and Russell will be studied. Prerequisite: PHIL 240 or consent of Department.

PHIL 350 Advanced Ethics
★3 (either term, 3-0-0). A study of such themes in ethical theory as consequentialist versus non-consequentialist views, meaning and objectivity in morals, free will and moral responsibility, the ethics of virtue, contractarian ethics. Prerequisite: PHIL 250 or consent of Department.

PHIL 370 Advanced Political Philosophy
★3 (either term, 3-0-0). A study of such themes in political philosophy as the state and the cultivation of virtue, Marx and Marxism: Mill and liberalism, the social contract tradition and Rawls. Prerequisite: PHIL 270 or consent of Department.

PHIL 372 Philosophy of Law: Theoretical Issues
★3 (either term, 3-0-0). Theoretical problems in the analysis of law and the legal system: legal positivism, legal realism, natural law theory, and nature of legal reasoning, the nature of legal rights. Prerequisite: One of PHIL 270, 272 or consent of Department.

PHIL 380 Aesthetics: Philosophy of Criticism
★3 (either term, 3-0-0). An introduction to the philosophical foundations of art criticsm. Questions concerning the standards of interpretation and of evaluation of the arts will be given special attention. Prerequisite: PHIL 280 or consent of Department.

PHIL 384 Philosophy of Literature
★3 (either term, 3-0-0). An introduction to the study of philosophical theories about the nature of literature and literary criticism. Prerequisite: PHIL 280 or consent of Department.

PHIL 392 Recent Continental Philosophy
★3 (either term, 3-0-0). An introduction to such movements in recent European philosophy as phenomenology, hermeneutics, critical theory, structuralism and post structuralism. Prerequisite: PHIL 291 or consent of Department.

PHIL 395 Philosophy of History
★3 (either term, 3-0-0). An introduction to various philosophical conceptions of history, including a critical examination of the assumptions and consequences of each interpretation. Prerequisite: One of PHIL 140, 240, 270, 340, 370, or consent of Department.

PHIL 396 Honors Seminar I
★3 (first term, 0-3s-0). Prerequisite: Consent of Department.

PHIL 397 Honors Seminar II
★3 (second term, 0-3s-0). Prerequisite: Consent of Department.

PHIL 400 Topics in Metaphysics
★3 (either term, 3-0-0). Prerequisite: One of PHIL 200, 301, or consent of Department.

PHIL 401 Topics in Epistemology
★3 (either term, 3-0-0). Prerequisite: PHIL 301 or consent of Department.

PHIL 405 Topics in Philosophy of Mind
★3 (either term, 3-0-0). Prerequisite: PHIL 305 or consent of Department.

PHIL 410 Topics in Philosophical Foundations of Probability and Induction
★3 (either term, 3-0-0). Advanced topics concerning causation, probability and inductive reasoning. Prerequisite: One of PHIL 310, 322 or consent of Department.

PHIL 411 Philosophy of Space and Time
★3 (either term, 3-0-0). Selected theories and problems concerning the nature of space and time. A strong background in philosophy, mathematics or physical sciences is desirable. Prerequisite: Consent of Department.

PHIL 414 Topics in Philosophy of Physics
★3 (either term, 3-0-0). Prerequisite: PHIL 364 or consent of Department.

PHIL 415 Topics in Philosophy of Biology
★3 (either term, 3-0-0). Prerequisite: PHIL 364 or consent of Department.

PHIL 416 Topics in Philosophy of Social Sciences
★3 (either term, 3-0-0). Prerequisite: PHIL 316 or consent of Department.

PHIL 420 Advanced Symbolic Logic
★3 (either term, 3-0-0). Godel's incompleteness theorems and their implications for philosophy, mathematics, and the theory of computation. Further topics to be determined by interests of the students. Prerequisite: PHIL 320 or consent of Department.

PHIL 421 Modal Logic
★3 (either term, 3-0-0). Standard modal systems in sentential and predicate logic including possible world semantics and completeness proofs. Tense logic and epistemic logic may be considered. Prerequisite: PHIL 320 or consent of Department.

PHIL 422 Topics in Advanced Logic
★3 (either term, 3-0-0). Prerequisite: PHIL 320 or consent of Department.

PHIL 423 Axiomatic Set Theory
★3 (either term, 3-0-0). An axiomatic development of Zermelo-Fraenkel (or other standard) set theory. Prerequisite: Phil 220 or consent of Department.

PHIL 425 Topics in Philosophy of Logic
★3 (either term, 3-0-0). Philosophical problems arising from logic and its applications. Prerequisite: One of PHIL 220, 320, 326, 421 or consent of Department.

PHIL 426 Topics in Philosophy of Language
★3 (either term, 3-0-0). Selected problems concerning the nature of language and meaning. Prerequisite: PHIL 326 or consent of Department.

PHIL 427 Topics in Philosophy of Mathematics
★3 (either term, 3-0-0). Topics may include the nature of numbers, mathematical truth, proof and evidence, approaches to the foundations of mathematics, including Hilbert's program, intuitionism, and the logicist reduction of mathematics to logic. Prerequisite: One of PHIL 220, 320 or consent of Department.

PHIL 430 Topics in Ancient Philosophy
★3 (either term, 3-0-0). Prerequisite: PHIL 330 or consent of Department.

PHIL 432 Plato
★3 (either term, 3-0-0). Prerequisite: PHIL 330 or consent of Department.

PHIL 434 Aristotle
★3 (either term, 3-0-0). Prerequisite: PHIL 330 or consent of Department.

PHIL 436 Topics in Later Medieval Philosophy
★3 (either term, 3-0-0). Scholastic philosophy in medieval western Europe from the mid-12th century to 1350, including relevant developments in later Islamic thought. Prerequisite: One of PHIL 330, 336, or consent of Department.

PHIL 442 Rationalism
★3 (either term, 3-0-0). Topics concerning the rationalist tradition of Descartes, Spinoza, and Leibniz. Prerequisite: PHIL 240 or consent of Department.

PHIL 443 Empiricism
★3 (either term, 3-0-0). Topics concerning the empiricist tradition of Locke, Berkeley, and Hume. Prerequisite: One of PHIL 240, 301, 340 or consent of Department.

PHIL 444 Kantian Philosophy
★3 (either term, 3-0-0). Topics concerning the Kantian tradition. Prerequisite: PHIL 240 or consent of Department.

PHIL 445 Nineteenth-Century Philosophy
★3 (either term, 3-0-0). Main philosphical movements in the nineteenth century. Prerequisite: PHIL 340 or consent of Department.

PHIL 446 Topics in Modern Philosophy
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

PHIL 450 Topics in Ethics
★3 (either term, 3-0-0). Prerequisite: One of PHIL 250, 350, 370 or consent of Department.

PHIL 455 Philosophy and Technology
★3 (either term, 3-0-0). A consideration of some of the main issues and themes current in the philosophy of technology, which may include the impact of technology and technological thinking upon society, the relationship of technology to science, a phenomenology of instrumentality, or the status of instrumental reasoning. Prerequisite: Consent of Department.

PHIL 470 Topics in Social and Political Philosophy
★3 (either term, 3-0-0). Prerequisite: One of PHIL 270, 350, 370 or consent of Department.

PHIL 472 Topics in Philosophy of Law
★3 (either term, 3-0-0). Prerequisite: PHIL 372 or consent of Department.

PHIL 480 Topics in Aesthetics
★3 (either term, 3-0-0). Prerequisite: One of PHIL 280, 282, 380 or consent of Department.

PHIL 484 Topics in Philosphy of Literature
★3 (either term, 3-0-0). Prerequisite: PHIL 384 or consent of Department.

PHIL 486 Directed Reading I
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

PHIL 487 Directed Reading II
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

PHIL 490 Topics in Philosophy of Religion
★3 (either term, 3-0-0). Prerequisite: PHIL 290 or consent of Department.

PHIL 492 Topics in Continental Philosophy
★3 (either term, 3-0-0). Prerequisite: One of PHIL 291, 392 or consent of Department.

PHIL 493 Topics in Eastern Philosophy
★3 (either term, 3-0-0). Topics may be pursued solely in the Eastern context or in relation to Western philosophy. Prerequisite: PHIL 293 or consent of Department.

PHIL 494 Honors Tutorial I
★3 (first term, 3-0-0). Prerequisite: Open only to final year Honors students.

Phil 495 Honors Tutorial II
★3 (First trem, 3-0-0). Prerequisite: Consent of Department.

PHIL 496 Honors Tutorial III
★3 (second term, 3-0-0). Prerequisite: Open only to final year Honors students.

PHIL 497 Honors Tutorial IV
★3 (second term, 3-0-0). Prerequisite: Consent of Department.

Note: For graduate courses in Philosophy, refer to §204.63.4 of this Calendar.

44.31.3 Philosophy (from within the Roman Catholic tradition) St Joseph's College

The following table lists renumbered courses effective 1990-91:

OLd	New	Old	New
PHIL 217	PHIL 117*	PHIL 300	PHIL 200*
PHIL 218	PHIL 118*	PHIL 301	PHIL 201*

*See following table for subsequent changes in these course numbers.

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
PHIL 117	PHIL 139	PHIL 304	PHIL 349
PHIL 118	PHIL 199	PHIL 305	PHIL 259
PHIL 200	PHIL 239	PHIL 306	PHIL 399
PHIL 201	PHIL 249	PHIL 401	PHIL 439
PHIL 302	PHIL 209	PHIL 403	PHIL 449
PHIL 303	PHIL 279	PHIL 404	PHIL 499

The following courses are offered by St Joseph's College and are accepted for credit in programs offered in the Faculty of Arts.

PHIL 139 An Introduction to Christian Philosophy
★3 (first term, 3-0-0). A study of early Christian thinkers' use of Greek philosophy, especially St Augustine's adaptation of Platonism and St Thomas Aquinas' adaptation of Aristotle. Note: Not available for credit with PHIL 239 or 249.

PHIL 199 Current Questions in Christian Philosophy
★3 (second term, 3-0-0). A philosophical analysis from a Christian point of view of some recent philosophical positions. The main problems to be looked into will concern God, soul, truth, and goodness.

PHIL 209 Philosophy of Human Beings
★3 (either term, 3-0-0). A study of human beings: their organic existence, their knowledge, their intellectual and emotional love.

PHIL 239 Foundations of Christian Philosophy
★3 (first term, 3-0-0). A study of Greek philosophy and Hebrew culture, with development of themes concerning human beings, human knowledge, nature and ethics in the general trhust of Christian philosophy. Note: Not available for credit with PHIL 139.

PHIL 249 Development of Christian Philosophy
★3 (second term, 3-0-0). A study of the thought of the medieval Christian thinkers, especially Augustine and Thomas Aquinas. Note: Not available for credit with PHIL 139.

PHIL 259 Ethics in Christianity
★3 (either term, 3-0-0). A philosophic analysis of the roots of contemporary ethics in the Christian tradition.

PHIL 279 Human Beings in Society
★3 (either term, 3-0-0). A philosophical study of human beings in association with others, dealing with such aspects as the nature of the State, authority, law, rights, duty, community.

PHIL 349 Philosophy of Being
★3 (either term, 3-0-0). The metaphysics of Thomas Aquinas; being, one, true, good, and beauty. Also modern developments and criticisms of metaphysics. Prerequisite: One of PHIL 139, 140, 239, 330, or consent of the College.

PHIL 399 Christian Existentialism
★3 (either term, 3-0-0). The philosophical foundations of contemporary Christian thought as seen in such authors as Kierkegaard, Marcel and Mounier. Prerequisite: One of PHIL 139, 140, 199, or consent of the College.

PHIL 439 Augustine
★3 (either term, 3-0-0). A study of the Christian Platonism of St. Augustine. Prerequisite: One of PHIL 130, 139, 239, 432 or consent of the College.

PHIL 449 Thomas Aquinas
★3 (either term, 3-0-0). A study of certain philosophical issues based on the reading of some texts. Prerequisite: One of Phil 139, 239, 249, 330, 434, or consent of the College.

PHIL 499 Topics in Christian Philosophy
★3 (either term, 3-0-0). Selected topics in contemporary Christian philosophy. Prerequisite: PHIL 199, 249 or 290 or consent of the College.

For Christian Theology courses offered by St Joseph's College, see §44.9. For other information see §246.1.2 of this Calendar.

44.32 Polish

Department of Slavic and East European Studies

The following table lists renumbered courses effective 1991-92:

Old	New
POLSH 303	POLSH 201
POLSH 304	POLSH 202

44.32.1 Junior Course

POLSH 100 Beginners' Polish
★6 (3-0-2). Essentials of grammar, reading, and drill on useful expressions designed to give a working knowledge of the Polish language. Not open to students with credit in matriculation-level Polish.

44.32.2 Senior Courses

POLSH 201 Second-Year Polish I
★3 (first term, 3-0-1). Intermediate grammar, compo… tion, and oral practice based on selected texts of Pol… classical and contemporary literature. Prerequisite: POL… 100 or consent of Department.

POLSH 202 Second-Year Polish II
★3 (second term, 3-0-1). A continuation of POLSH 3… with greater emphasis on reading and composit… Prerequisite: POLSH 201

POLSH 411 Polish Literature to the End of the Nineteenth-Century
★3 (either term, 3-0-0). Reading and analysis of … major Polish writers against the political and cultu… background of this period. Prerequisite: POLSH 202 … consent of Department.

POLSH 412 Twentieth-Century Polish Literature
★3 (either term, 3-0-0). Modern literary movements a… writers, with emphasis on the twenties and thirti… Prerequisite: POLSH 411 or consent of Department.

POLSH 441 English-Polish/Polish-English Translation I
★3 (either term, 3-0-0). Exercises in translation w… emphasis on non-literary texts. Prerequisite: POL… 202, or consent of Department.

POLSH 442 English-Polish/Polish-English Translation II
★3 (either term, 3-0-0). Exercises in translation w… emphasis on literary texts. Prerequisite: POLSH 441, … consent of Department.

POLSH 498 Conference Course (Linguistics)
★3 (either term, 3-0-0). Students as well as staff m… initiate proposals in any given year for the content of t… course. Please consult the Department Chair for t… procedure for student-initiated proposals.

POLSH 499 Conference Course (Literature/Folklor…
★3 (either term, 3-0-0) or ★6 (3-0-0). Students as w… as staff may initiate proposals in any given year for t… content of this course. Please consult the Departme… Chair for the procedure for student-initiated proposals.

44.33 Political Science

The following table lists renumbered courses effecti… 1990-91:

Old	New
POL S 200	POL S 100
POL S 203	POL S 103

44.33.1 Junior Courses

POL S 100 Introduction to Government and Politic…
★6 (3-0-0). An introduction to the institutions, process … and problems of democratic states with particular e… phasis on the Anglo-American democracies. Some … the topics considered are ideologies, the role of governme… democracy, the roles of the executive, legislative a… judicial branches of government, political parties a… interest groups, and political behavior, including electio…

POL S 103 Modern Political Issues
★3 (either term, 3-0-0). An introduction to contempora… issues and events. Note: This course is designed … students not contemplating a Political Science maj… Not open to students who are taking or have tak… POL S 100.

44.33.2 Senior Courses

POL S 300 Comparative Political Systems
★6 (3-0-0). Comparative analysis of selected maj… political systems of the present day, with emphasis … the relationships between political functions and soci… processes. This is the core course in the field … comparative government and politics and a prerequisi… for most 400-level courses in the field.

POL S 310 History of Political Thought
★6 (3-0-0). An historical and critical survey of t… development of political and social philosophy fro… ancient Greece to the present time, with selected rea… ings from major political writers. This is the core cour… in the field of political philosophy and the prerequisite f… 400-level courses in the field.

POL S 312 Ethics and Politics
★3 (either term, 3-0-0). An examination of some mo… issues that arise in the political realm, such as the l… regarding abortion and euthanasia, capital punishme…

scenity, and the rights of aboriginal peoples. Note: ot intended for students specializing in political sci- ce. Not open to students who are taking or have taken OL S 310.

OL S 316 Mathematical Applications in Political cience
3 (either term, 3-0-0). An Introductory examination of irrent and potential uses of descriptive and inferential atistics in the study of politics. Prerequisite: Mathemat- s 30 or equivalent.

OL S 317 Research Methods and Techniques for olitical Analysis
3 (either term, 3-0-0). An examination of basic re- arch methods; techniques for data collection and alysis in political science. Prerequisite: POL S 316 or nsent of Department.

OL S 320 Canadian National Government and olitics
6 (3-0-0). The structure and function of the govern- ent of Canada, especially of the Commons, Senate, abinet System, Civil Service, and the role of political rties. Note: This is the core course in the field of anadian government and politics and a prerequisite for ost 400-level courses in the field. Not open to students no are taking or have taken POL S 321.

OL S 321 Canadian Government
3 (either term, 3-0-0). The structure and function of the overnment of Canada, provincial governments, and cal governments. Note: Designed primarily for stu- ents who want one senior course in political science. ot intended for students specializing in political science. ot open to students who are taking or have taken OL S 100 or 320.

OL S 322 Local Government and Administration
3 (either term, 3-0-0). The structure and functions of cal government in Canada with primary emphasis on e Province of Alberta. Note: Designed primarily for udents who want one senior course in political sci- nce. Not intended for students specializing in political ience. Not open to students who are taking or have ken POL S 323.

OL S 323 Local Government and Politics
3 (either term, 3-0-0). The political process as struc- red by formal governmental institutions, focusing on cal government in Canada. This is the core course in e field of local government and politics. Not open to udents who are taking or have taken POL S 322.

OL S 324 Comparative Urban Political Systems
3 (either term, 3-0-0). A comparison of centre—periph- y and city—neighborhood power relationships in sev- al modern political systems.

OL S 325 Topics in City Politics
3 (either term, 3-0-0). A detailed examination of specific unicipal policies. Topics will vary annually. Prerequisite: OL S 322, or 323, or 324.

OL S 326 Canadian Foreign Policy
3 (either term, 3-0-0). Major trends and development Canadian foreign policy since 1919 with primary mphasis on the period since 1945. Note: No formal rerequisite, but a course or the equivalent in twentieth antury Canadian history would be desirable.

OL S 328 Elements of Public Administration
3 (either term, 3-0-0). Topics include government rganization, budgets, policy-making, and democratic ontrol and accountability. The focus is on Canada, but ther countries are also considered.

OL S 332 American Government and Politics urvey
3 (either term, 3-0-0). An examination of all aspects of ie American political system. Political institutions and rocesses will be dealt with at the national, state and cal level.

OL S 341 Soviet Government
3 (either term, 3-0-0). An introduction to government in ie USSR, with an emphasis on sources and origins, ate and party structures, and the institutions of com- unication and information.

OL S 350 Women and Politics: A Comparative erspective
3 (either term, 3-0-0). An introduction to women's aditional and changing roles in political structures and olicies world-wide, with comparisons of first, second nd third world women.

OL S 360 International Relations
6 (3-0-0). An introduction to contemporary interna- onal relations that attempts to develop an understand- g of political events at the international level. The ourse covers the nature of foreign policy, the dynamics f interactions between states, the causes of war, impe- alism and the role of non-state actors. Note: This is the ore course in the field of international relations and a rerequisite for most 400-level courses in the field.

POL S 363 Issues in International Politics
★3 (either term, 3-0-0). Contemporary issues of conflict and cooperation. Note: Not intended for students specializing in political science. Not open to students who are taking or have taken POL S 360, 361 or 362.

POL S 374 Asian Politics: India to Indonesia
★3 (either term, 3-0-0). Social behaviour and attitudes, governmental, political parties, pressure groups and elections, the role of civil and military bureaucracy and the political and religious elites and their impact upon national policy formulation. Focus of attention will be upon India, Pakistan, Malaysia and Indonesia.

POL S 376 Problems of Political Development
★3 (either term, 3-0-0). With its focus on the problems of political integration, political corruption, political stability, elite domination, military and political violence, this course takes a thematic approach and examines the prospects of development and modernization and maintenance of political order in several developing countries.

POL S 380 Comparative Politics
★3 (either term, 3-0-0). An introduction to topics and issues in comparative politics.

POL S 386 Contemporary Western European Politics
★3 (either term, 3-0-0). An examination of similarities and differences in the political and governmental processes of contemporary Western Europe.

POL S 390 Introduction to Political Behavior
★3 (either term, 3-0-0). An introduction to the behavioral approach to the study of politics and its application in selected substantive research areas. This is the core course in the field of political behavior.

POL S 391 Political Parties of Canada and Other Western Democracies
★3 (either term, 3-0-0). A study of the political parties of Canada in comparison with those of other western democracies. Topics include party systems, ideologies and programs, members and supporters, organization and resources, and electoral and governmental activities.

POL S 392 Interest Groups of Canada and Other Western Democracies
★3 (either term, 3-0-0). A study of political interest groups of Canada in comparision with those of other western democracies. Topics include group ideologies and interests, members, organization and resources, and non-governmental and governmental activities.

POL S 399 Third-Year Honors Seminar
★3 (either term, 0-3s-0). Note: Restricted to Honors Students in Third Year.

Interdisciplinary Studies

INT D 346 Introduction to Eastern Europe and the Soviet Union
★6 (3-0-0). An interdisciplinary introduction to the study of the socialist system with special reference to the Soviet Union and East Europe. (Offered jointly by the Departments of Slavic and East European Studies, Comparative Literature, Economics, Geography, History, Political Science, Sociology.) [Slavic and East European Studies] Note: This course will not fulfill the Language other than English requirement of the BA degree.

INT D 393 Political Sociology
★3 (either term, 3-0-0). An examination of the impact of social organization and structure on the conduct of politics in mass societies, and of the ways the organization and structures of such societies are affected by political processes. Prerequisite: POL S 100, or 101 and 102; or one of SOC 100, 202 or 300. (Offered jointly by the Departments of Political Science and Sociology.) [Political Science].

44.33.3 Advanced Courses

These courses are normally taught as seminars and the precise topics covered in any course may vary from year to year. Students should note that most 400-level courses have specific 300-level (or equivalent) prerequisites. These prerequisites may be waived in special cases with the permission of the Department or the instructor.

POL S 406 Topics in the History of Political Thought I
★3 (either term, 3-0-0). Prerequisite: POL S 310 or equivalent.

POL S 407 Topics in the History of Political Thought II
★3 (either term, 3-0-0). Prerequisite: POL S 310 or equivalent.

POL S 408 Topics in Modern Political Theory I
★3 (either term, 3-0-0). Prerequisite: POL S 310 or equivalent.

POL S 409 Topics in Modern Political Theory II
★3 (either term, 3-0-0). Prerequisite: POL S 310 or equivalent.

POL S 410 Topics in Contemporary Political Philosophy I
★3 (either term, 3-0-0). A critical examination of contemporary trends in political philosophy. Prerequisite: POL S 310 or equivalent.

POL S 411 Topics in Contemporary Political Philosophy II
★3 (either term, 3-0-0). A critical examination of contemporary trends in political philosophy. Prerequisite: POL S 310 or equivalent.

POL S 414 Theories of Politics and Society
★3 (either term, 3-0-0). Various topics in political and social theory will be considered, centering on special approaches and perspectives in political philosophy. Prerequisite: POL S 310 or consent of Department.

POL S 415 Analysis of Political Science I
★3 (either term, 3-0-0). A philosophical investigation of the basic issues involved in the scientific study of politics. Prerequisite: POL S 310 or consent of Department.

POL S 416 Analysis of Political Science II
★3 (either term, 3-0-0). A philosophical investigation of the basic issues involved in the scientific study of politics. Prerequisite: POL S 310 or consent of Department.

POL S 418 Alberta Government: Practical Perspectives
★3 (either term, 3-0-0). This course offers practical perspectives into the operation of the government and administration of Alberta. Lecturers will have held high public office and will offer illustrations from personal experience. Prerequisite: POL S 320 or consent of Department.

POL S 419 Canadian Constitutional Law
★3 (either term, 3-0-0). The political implications of judicial decisions in the areas of civil liberties, federal-provincial relations and international agreements. Prerequisite: POL S 320, or consent of Department.

POL S 420 Canadian National Government
★3 (either term, 3-0-0). Prerequisite: POL S 320 or consent of Department.

POL S 421 Selected Problems in Canadian Government
★3 (either term, 3-0-0). Prerequisite: POL S 320 or consent of Department.

POL S 422 Canadian Public Policy
★3 (either term, 3-0-0). Analysis of Canadian public policy including policy formation and implementation. Attention will be given to specific policy areas such as health and welfare, the economy, agriculture, and communication. Prerequisite: POL S 320 or consent of Department.

POL S 423 Canadian Federalism
★3 (either term, 3-0-0). The analysis of the development and theories of Canadian Federalism. Attention will be given to current problems of the federal system. Prerequisite: POL S 320 or consent of Department.

POL S 424 Canadian Political Behavior
★3 (either term, 3-0-0). A behavorial approach to the study of legislative, party, and voting activities. Prerequisite: POL S 320 or consent of Department.

POL S 425 Canadian Public Administration
★3 (either term, 3-0-0). The theory of public administration and its present day application in the government; federal-provincial relations, planning and finance, human relations, and personnel administration in the Canadian Government. The purpose of the course is to provide a broad overview of the administrative organization and its working in contemporary Canada. Prerequisite: POL S 320 or 328 or consent of Department.

POL S 426 Civil Service in Canada
★3 (either term, 3-0-0). The history, growth, and modernization of the Civil Service Commission of Canada. The organization of government departments and the role and position, the powers and responsibilities, the political rights of Canadian civil servants and the pressures and controls exercised upon them, as well as the role of the ombudsman are also considered. Prerequisite: POL S 320 or 328 or consent of Department.

POL S 427 Selected Problems in Western Canadian Politics
★3 (either term, 3-0-0). A discussion of such problems as the special relationships amongst the three Prairie Provinces, the influence of agricultural interest groups and the reasons for the success of third parties in the four Western Provinces. Prerequisite: POL S 320 or consent of Department.

POL S 428 Provincial Government and Politics
★3 (either term, 3-0-0). A study of structures, functions and processes of selected provincial governments in Canada. Prerequisite: POL S 320 or consent of Department.

POL S 429 Government and Politics of Alberta
★3 (either term, 3-0-0). The study of selected aspects of Alberta government and politics. Topics may range from political institutions, through political parties, to areas of public policy. Prerequisite: POL S 320 or consent of Department.

POL S 431 Administrative Behaviour
★3 (either term, 3-0-0). A study of decision-making, integration and conflict resolution within government and bureaucratic organizations, and of the responsiveness and effectiveness of these organizations, with specific reference to Canada. Prerequisite: POL S 320 or 328 or consent of Department.

POL S 432 Politics of the Canadian North
★3 (either term, 3-0-0). An analysis of the politics of native claims, constitutional change and the non-renewable and renewable resource economics of Canada north of 60°. Prerequisite: POL S 320 or consent of Department.

POL S 433 City Politics
★3 (either term, 3-0-0). The theory and practice of city politics in modern Canada. The course will normally employ as resource persons senior elected and appointed officials from governments. Prerequisite: POL S 323 or permission of the instructor.

POL S 434 Urban Policy Analysis
★3 (either term, 3-0-0). A study of policy formation in selected Canadian and foreign cities. A series of independent variables (socio-economic status, governmental structure, tax base, political culture, party structure) will be examined in order to ascertain their effect on policy outcomes relating to both necessities and amenities in urban areas. Prerequisite: POL S 323 or consent of Department.

POL S 435 Problems in Metropolitan Government
★3 (either term, 3-0-0). The comparative study of the functional, fiscal, structural and political aspects of metropolitan government. Prerequisite: POL S 323 or consent of Department.

POL S 436 Comparative Urban Political Systems
★3 (either term, 3-0-0). A comparison of centre/periphery and city/neighborhood relationships in developing and modern political systems. Prerequisite: POL S 323 or POL S 300 or consent of Department. Not open to students with credit in POL S 324.

POL S 439 Government and Politics of Quebec
★3 (either term, 3-0-0). A study of selected aspects of Quebec politics, including the social bases of political parties and ideologies, the changing position of the anglophone minority, and the expansion of the provincial state since 1960. Prerequisite: POL S 320 or consent of Department.

POL S 440 Selected Topics in Public Policy
★3 (either term, 3-0-0). Prerequisite: POL S 300 or 320 or consent of Department.

POL S 444 The Modern State
★3 (either term, 3-0-0). A critical conceptual-theoretical consideration of the state in modern society, its characteristics and role in the context of different nations and its development in the West. Prerequisite: POL S 300 or consent of Department.

POL S 445 Bureaucracies and Policy Making
★3 (either term, 3-0-0). Comparative analysis of the central structures and processes of policy making, the organization and processes of bureaucracies, and the roles of and controls over bureaucrats. Prerequisite: POL S 300 or consent of Department.

POL S 446 Public Policy in the Modern State
★3 (either term, 3-0-0). This is a seminar on the role of the state in North America and Western Europe. After a discussion on the impact of political parties, the politics of intervention is discussed for economic development, macro-economic management, the welfare state, and industrial relations. Prerequisite: POL S 300 or consent of Department. Not to be taken by students with credit in POL S 430.

POL S 447 Labor and Politics
★3 (either term, 3-0-0). A course on the role of workers and their organizations in politics, and on the impact of politics on the workplace. Includes discussions on the workplace, trade unions, the state and industrial relations, social democracy, and corporatism. Prerequisite: POL S 300 or consent of Department.

POL S 448 Political Processes and Political Actors in Comparative Perspective
★3 (either term, 3-0-0). Political elites and participation, political parties and party systems, and pressure groups examined from critical theoretical and empirical perspectives. Focus will be on North America and Western Europe. Prerequisite: POL S 300 or consent of Department.

POL S 449 Revolution, Terrorism, and Political Change
★3 (either term, 3-0-0). Theoretical and comparative analyses of revolutionary thought and movements, revolutionary change as a distinct form of political change, and terrorism as a political strategy. Prerequisite: POL S 300 or consent of Department. Not to be taken by students with credit in POL S 417.

POL S 450 Topics in Comparative Theory
★3 (either term, 0-3s-0). Seminar in major areas of and comparative theory such as political economy and the politics of collective action. Prerequisite: POL S 300 or consent of Department.

POL S 451 Philosophy and Theory of Law
★3 (either term, 3-0-0). The concept of law and its purpose; the role of morality in its development; the function and purpose of law; the nature and role of various legal concepts. Prerequisite: Consent of Department.

POL S 452 Selected Topics in Jurisprudential and Governmental Theory
★3 (either term, 3-0-0). The discussion of such topics as the concept of sovereignty; the Canadian court system; the differences between civil and criminal law; the differences between colonies and dominions; the status of the Commonwealth and other related matters. Prerequisite: Consent of Department.

POL S 455 Strategy and Canadian Defence Policy
★3 (either term, 3-0-0). Military strategy viewed from the narrower perspective of Canadian defence policy. Prerequisite: POL S 360 or consent of Department.

POL S 456 Topics in Nuclear Strategy and Arms Control
★3 (either term, 3-0-0). The course examines nuclear strategy and probes such issues as the requirements for deterrence, the stability of nuclear deterrence, arms races and the influence of arms control upon nuclear strategy. Prerequisite: POL S 360 or permission of the Department.

POL S 457 Foreign Policy Analysis
★3 (either term, 3-0-0). Analysis of those main variables contributing to the formation of the foreign policies of selected nations. Prerequisite: POL S 360 or consent of Department.

POL S 458 United States Foreign Policy
★3 (either term, 3-0-0). The contemporary foreign policies of the United States and their causes. Prerequisite: POL S 360 or consent of Department.

POL S 461 Selected Problems in International Politics
★3 (either term, 3-0-0). The study of selected contemporary problems and/or methods in international relations. Prerequisite: POL S 360 or consent of Department.

POL S 462 International Political Economy
★3 (either term, 3-0-0). This course examines the relationships between international politics and international economics. The inter-relationships of power and wealth are analyzed by studying the economic conflicts between nations and the influence of multinational corporations, and the impact of such commodities as oil on national societies. The course also asks whether economic interdependence gives rise to discord or cooperation among states. Note: Not to be taken by students with credit in POL S 460. Prerequisite: POL S 360 or consent of Department.

POL S 463 Theories of War and Military Strategy
★3 (either term, 3-0-0). A survey covering theorists and theories of war, conventional strategy, and revolutionary strategy. Includes Clausewitz, Mahan, Mao, Liddell Hart, and some national approaches to strategy. Prerequisite: POL S 360.

POL S 464 Selected Problems in Canadian Foreign Policy
★3 (either term, 3-0-0). A discussion of several major topics and problems in Canadian foreign policy since 1945. Prerequisite: POL S 360 or consent of Department.

POL S 465 International Relations and World Law
★6 (3-0-0). The nature of international law; the function of international law in society; the universal character of international law; the state and other international persons; sovereignty and equality; recognition of governments and states; civil war and intervention; war and neutrality; international institutions; world government. Prerequisite: Consent of Department.

POL S 466 The Law of Armed Conflict
★3 (either term, 3-0-0). The history and sources of armed conflict law, its basic principles and the rights and duties of various participants. Prerequisite: Consent of Department.

POL S 470 Selected Topics in Comparative Politics
★3 (either term, 3-0-0). Selected topics of current interest in comparative politics and government. Prerequisite: POL S 300 or consent of Department.

POL S 471 Comparative Communist Systems: Soviet and East European
★3 (either term, 3-0-0). An analysis and comparison of political culture, social structure, and political institutio in the political processes of the Soviet Union and E European countries. Prerequisite: POL S 300 or conse of Department.

POL S 472 Government and Politics of China
★3 (either term, 3-0-0). This course is a comprehensi discussion of the domestic politics of China after 19 The course deals with revolution and modernization Chinese politics, assessing the role of the commun party, and the prospects for reform. Prerequisite: POL 300, courses related to Chinese history and politics, consent of Department. Not open to students with cre in POL S 372.

POL S 473 Asian Politics: India to Indonesia
★3 (either term, 3-0-0). Post independence politics former colonies, development of political structures a norms, search for political legitimacy and stability, fa ioning a political community and a nation out of dispar grouping will be discussed with reference to the co tries of South and South-east Asia. Prerequisite: POL 300 or consent of Department. Not open to students w credit in POL S 374.

POL S 474 Government and Politics of Japan
★3 (either term, 3-0-0). This is a course on the domes politics of post-war Japan. It deals mainly with t political structure, political parties and the political econo of the Japanese miracle. Prerequisite: POL S 300 consent of Department; also open to students of Japan civilization.

POL S 475 Politics of Contemporary Soviet Ukrai
★3 (either term, 3-0-0). Post-revolutionary politics a ideologies, with special attention to administrati institutional and constitutional changes, the nationali problems and intellectual dissent. Prerequisite: POL 300 or consent of Department.

POL S 476 Politics in the Middle East
★3 (either term, 3-0-0). The importance of the Midd East in geopolitical terms, societal and political confli and the major political upheavals such as the Ar Israeli conflict, wars and revolutions. Prerequisi POL S 300 or consent of Department. Not open students with credit in POL S 373.

POL S 477 Issues in Islamic Politics
★3 (either term, 3-0-0). Elements underpinning politi behaviour in Muslim countries that constitute articulat themes, norms and demands such as Islamic law a constitution, Islamic concept of politics and socie Islamic fundamentalism and Islamization will be examin with reference to some selected countries. Prerequisi POL S 300 or consent of Department.

POL S 478 Topics in Latin American Politics
★3 (either term, 3-0-0). Prerequisite: POL S 300 consent of Department.

POL S 479 The Politics of Latin America
★3 (either term, 3-0-0). An intensive and general surv of Latin American societies and politics, including co peting approaches to the state, development mode political movements, social classes. Prerequisite: POL 300 or consent of Department.

POL S 480 Selected Topics in Sub-Saharan Africa Politics
★3 (either term, 3-0-0). An examination of select political systems in the region focusing on the stat responses to development and domestic and exter crises. Prerequisite: POL S 300 or consent of Departme Not open to students with credit in POL S 381.

POL S 484 United States Government and Politics
★3 (either term, 3-0-0). Advanced study of institutio political processes, and public policy making in the Unit States. Prerequisite: POL S 300 or consent of Departme Not open to students with credit in POL S 333.

POL S 485 Western European Politics and Government
★3 (either term, 3-0-0). An examination of the political governmental structures and processes and some aspe of public policy in selected nations of Western Euro Prerequisite: POL S 300 or consent of Department.

POL S 486 Government and Politics of the United Kingdom
★3 (either term, 3-0-0). The governmental and politi structures and processes of the United Kingdom, e phasizing the functioning of the political system in rec decades. Prerequisite: POL S 300 or consent of Depa ment. Not open to students with credit in POL S 384.

POL S 487 French Politics and Society
★3 (either term, 3-0-0). A course on France, deal with the development of Fench politics, current confli and institutions, and the way contemporary Frer scholars understand their own society. Prerequis POL S 300 or consent of Department.

POL S 488 Problems in Soviet Government
★3 (either term, 3-0-0). Major problems of current So domestic government, with special attention to econor

anagement and change, nationalities, and social is-es. Prerequisite: POL S 300 or consent of Depart-ent. Not to be taken by students with credit in POL S 2 or 442.

OL S 489 Soviet Foreign Policy
3 (either term, 3-0-0). An introduction to Soviet foreign olicy from 1917 to the present, including the making of reign policy, objectives, and areas of activity. Prereq-site: POL S 300 or consent of Department. Not open to udents with credit in POL S 343.

OL S 490 Selected Topics in Political Behaviour
3 (either term, 3-0-0). Detailed examination of special pics of current or historical importance in the field. pics will vary according to interests. Prerequisite: OL S 390 or consent of Department.

OL S 492 Psychology of Politics
3 (either term, 3-0-0). Advanced study of the role of gnitive processes in the psychology of politics. Pre-quisite: POL S 390 and POL S 495. Open to Psychol-y majors who lack POL S 390 and 495.

OL S 493 Politics and the Film
3 (either term, 3-0-0). The study of the motion picture th as propaganda and as political document. Prereq-site: F ST 200 is strongly recommended as prerequi-e or corequisite.

OL S 494 Socialization to Politics
3 (either term, 3-0-0). A survey of major theories and search findings regarding the learning of 'civic' attitudes, d other aspects of political cultures, and their impact subsequent political behavior. Not to be taken by udents with credit in POL S 394.

OL S 495 Political Attitudes and Ideologies
3 (either term, 3-0-0). A study of the cognitive psychol-y of political attitudes and ideologies and their impact the individual citizen's involvement in politics. Not to taken by students with credit in POL S 395.

OL S 496 Representation and Electoral Systems
3 (either term, 3-0-0). An examination of the institu-nal framework within which the electoral process erates under representative government, with emphasis voting as a mechanism of social choice. Note: Not to taken by students with credit in POL S 397.

OL S 497 Elections and Voting Behavior
3 (either term, 3-0-0). Analysis of the aggregate elec-n results and voting behavior of individuals and social oupings. Content will be cross-national in scope and ill deal largely with sociological and socio-psychologi-l influences on voting. Note: Not to be taken by udents with credit in POL S 396.

OL S 499 Honors Essay: Fourth-Year Honors olitical Science
6 (3-0-0). Preparation of the Honors essay, required in e fourth year of the Honors program.

terdisciplinary Studies

IT D 430 Problems and Topics in Middle Eastern tudies
3 (either term, 3-0-0). (Offered jointly by the Depart-ents of History, Political Science, Sociology and Reli-ous Studies). [Religious Studies]. Prerequisite: Consent one of the participating Departments.

IT D 447 Soviet Political Thought
3 (either term, 3-0-0). Consideration of Russian and oviet critical political thought, and current discussions the USSR and abroad on a wide range of political pics, from the organization of state power, interpreta-ons of the history of the USSR and its ideology, to ople's rights and freedoms, to nationality issues, and her current political problems. (Offered jointly by the epartments of Political Science and Slavic and East uropean Studies). [Slavic and East European Studies]. rerequisite: A course in the Soviet/Russian area, or armission of instructor. Note: Not to be taken by udents with credit in INT D 447 (Societ Dissent).

IT D 468 Principles of International Humanitarian aw
3 (either term, 3-0-0). Historical background; humani-rian intervention; human rights; law of war; international iminal law. Prerequisite: Consent of Faculty of Law or epartment of Political Science. [Political Science].

4T D 540 Seminar on Comparative, Legal, onstitutional, and Federal Studies
6 (0-3s-0). Prerequisite: Consent of Department. (Of-red jointly by the Departments of History and Political cience.) [Political Science].

4T D 546 East European and Soviet Studies
6 (3-0-0). An interdisciplinary seminar. (Offered jointly y the Departments of Slavic and East European Stud-s, Comparative Literature, Economics, Geography, istory, Political Science, Sociology.) [Slavic and East uropean Studies]. Note: This course will not fulfill the anguage other than English requirement of the BA egree.

44.33.4 Honors Courses

Note: The consent of Department is required for all 500-level courses. Although these Honors courses are normally taught as graduate courses, they may be taken by fourth-year Honors students. For graduate courses in Political Science at the 600-level, refer to §204.69.4 of this Calendar.

POL S 500 Conference Course
★6 (0-3s-0).

POL S 501 Comparative Institutions and Processes
★3 (either term, 0-3s-0).

POL S 502 Logic of Political Inquiry
★3 (either term, 0-3s-0).

POL S 503 Principles of Research Design and Analysis
★3 (either term, 0-3s-0).

POL S 506 Empirical Political Theory
★3 (either term, 3-0-0).

POL S 508 Scientific Study of Politics I
★3 (either term, 3-0-0). Prerequisite: POL S 415.

POL S 509 Scientific Study of Politics II
★3 (either term, 3-0-0). Prerequisite: POL S 416 and 508.

POL S 510 Advanced Study of Political Thought
★6 (3-0-0).

POL S 511 Topics in Normative Analysis
★3 (either term, 3-0-0).

POL S 512 Modern Social Theory
★3 (either term, 3-0-0).

POL S 515 Statistics for Political Scientists
★4 (either term, 2-0-2).

POL S 516 Problems in Marxist Political Theory
★3 (either term, 3-0-0).

POL S 521 Canadian Government and Politics
★3 (either term, 3-0-0).

POL S 522 Canadian Federalism
★3 (either term, 3-0-0).

POL S 523 Canadian Political Parties
★3 (either term, 0-3s-0).

POL S 524 Canadian Political Culture
★3 (either term, 3-0-0).

POL S 525 Urban Analysis
★3 (either term, 3-0-0).

POL S 526 Selected Topics in Urban Politics
★3 (either term, 3-0-0).

POL S 527 Canadian Public Policy
★3 (either term, 3-0-0).

POL S 528 The Politics of Public Administration
★3 (either term, 3-0-0). Prerequisite: POL S 425, or consent of Department or the Associate Dean of the MPM program.

POL S 540 Selected Topics in Public Policy
★3 (either term, 3-0-0). Prerequisite: POL S 300 or 320 or consent of Department.

POL S 545 Topics in Communism
★3 (either term, 0-3s-0).

POL S 546 Seminar in Soviet Government
★3 (either term, 0-3s-0).

POL S 550 Comparative Politics: Theory and Analysis
★3 (either term, 0-3s-0).

POL S 551 Comparative Politics: Selected Topics
★3 (either term, 3-0-0).

POL S 553 Comparative Political Activism
★3 (either term, 3-0-0).

POL S 554 Comparative Party and Group Politics
★3 (either term, 3-0-0).

POL S 555 Territorial Organization in Nation States
★3 (either term, 0-3s-0).

POL S 560 International Politics I
★3 (either term, 3-0-0).

POL S 561 International Politics II
★3 (either term, 0-3s-0).

POL S 562 Canadian Foreign Policy
★3 (either term, 3-0-0).

POL S 564 Conflict Resolution and Strategic Studies
★3 (either term, 3-0-0).

POL S 565 Foreign Policy Analysis
★3 (either term, 3-0-0).

POL S 570 Political Development: Theory
★3 (either term, 3-0-0).

POL S 571 Political Development: Selected Topics
★3 (either term, 3-0-0).

POL S 578 Asian Systems
★3 (either term, 3-0-0).

POL S 580 Western European Systems
★3 (either term, 0-3s-0).

POL S 581 Anglo-American Systems
★3 (either term, 3-0-0).

POL S 592 Political Psychology
★3 (either term, 3-0-0).

POL S 593 Political Behavior
★3 (either term, 3-0-0).

POL S 594 The Comparative Study of Political Mass Movement
★3 (either term, 0-3s-0).

POL S 599 Research Seminar for Non-Thesis MA Candidates
★6 (0-3s-0).

44.34 Psychology

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
PSYCO 261	PSYCO 105	PSYCO 383	PSYCO 233
PSYCO 341	PSYCO 241	PSYCO 389	PSYCO 339
PSYCO 353	PSYCO 223	PSYCO 599	PSYCO 490
PSYCO 358	PSYCO 258		

44.34.1 Junior Courses

Note: Prerequisites to some courses in the Department may be found in the Science section of this Calendar.

PSYCO 105 Individual and Social Behavior
★3 (either term, 3-0-1/4). Introduction to the study of human individuality, personality, and social psychological processes. Some aspects of normal and abnormal human development, psychological assessment and treatment may be reviewed. Prerequisite: PSYCO 104.

44.34.2 Senior Courses

PSYCO 223 Developmental Psychology
★3 (either term, 3-0-0). Biological, cognitive and social aspects of psychological development, with special emphasis on infancy, childhood and adolescence. Prerequisite: PSYCO 104/105 or equivalent. Note: PSYCO 223 and FAM 343 may not both be taken for credit.

PSYCO 233 Personality
★3 (either term, 3-0-0). An introductory survey including representative theoretical points of view and research relevant to the major problems of the study of personality. Prerequisite: PSYCO 104/105 or equivalent.

PSYCO 241 Social Psychology
★3 (either term, 3-0-0). A survey of theories and research on the individual in a social context. Prerequisite: PSYCO 104/105 or equivalent. Note: PSYCO 241 and SOC 241 may not both be taken for credit.

PSYCO 258 Cognitive Psychology
★3 (first term, 3-0-0). A survey of findings of theoretical issues in the study of cognition. Topics include perception, attention, knowledge representation, memory, learning, language, reasoning, and problem solving. Note: Not open to students with credit in PSYCO 353, 358, or 373. Prerequisite: PSYCO 104 and 211.

PSYCO 306 Honors Seminar
★3 (first term, 3-0-0). Corequisite: PSYCO 211 and consent of Department. Note: Required of all students in Honors Psychology.

PSYCO 307 Honors Seminar
★3 (second term, 3-0-0). Prerequisite: PSYCO 306 and consent of Department. Note: Required of all students in Honors Psychology.

PSYCO 339 Abnormal Psychology
★3 (either term, 3-0-0). A general introduction. Prerequisite: PSYCO 233. Note: Not open to students with credit in PSYCO 489.

PSYCO 404 Special Topics in Psychology I
★3 (first term, 3-0-0). Review and discussion of special theoretical or methodoligical topics in contemporary psychology. Prerequisite: PSYCO 104/105 and consent of Department. Note: Students are encouraged to check with the department for the topic for the current year.

PSYCO 405 Special Topics in Psychology II
★3 (second term, 3-0-0). Review and discussion of a novel or emerging research area in contemporary

psychology. Prerequisite: PSYCO 104/105 and consent of Department. Note: Students are encouraged to check with the department for the topic for the current year.

PSYCO 406 Honors Seminar
★3 (first term, 3-0-3). Prerequisite: PSYCO 307.

PSYCO 407 Honors Seminar
★3 (second term, 3-0-3). Prerequisite: PSYCO 406.

PSYCO 431 Theory and Practice of Psychometrics
★3 (either term, 3-0-3). The nature of psychological tests; survey of the various types of standardized tests; some practical work in administration, scoring and interpretation of tests. Prerequisite: PSYCO 104/105 (or equivalent) and 211 and 339.

PSYCO 435 Introduction to Clinical Psychology
★3 (either term, 3-0-0). Application of the theories, principles, and methods of psychology to understand and alleviate human problems. Prerequisite: PSYCO 339 and 431.

PSYCO 441 Experimental Social Psychology
★3 (either term, 3-0-3). An intensive study of methods for investigating social behavior. The evaluation of published research, design of experiments, analysis and communication of results will be stressed. Opportunity for supervised research projects. Prerequisite: PSYCO 104/105 (or equivalent), 211, 241, and one of PSYCO 208, 266, 281, or 353.

PSYCO 443 Social Cognition
★3 (second term, 3-0-0). Advanced treatment of topics in the study of how we think about the world of persons and events. Topics may include the role of categories, schemas, theories, and heuristics in social cognition, factors underlying the stereotyping of persons and groups, and the question of motivated bias in social perception. Prerequisite: PSYCO 211 and 241.

PSYCO 445 Advanced Topics in Social Psychology
★3 (either term, 3-0-0). An in-depth review and analysis of issues and research strategies in a subarea of social psychology. Prerequisite: PSYCO 104, 105, and 241 or consent of Department. Note: Students are encouraged to check with the department for the topic for the current year.

PSYCO 454 Perceptual and Cognitive Development
★3 (either term, 3-0-0). The development of the ability to process information from the environment. Attention, memory, and concept formation in infants and young children. Prerequisite: PSYCO 223 or consent of Department.

PSYCO 456 Advanced Topics in Developmental Psychology
★3 (either term, 3-0-0). An in-depth review and analysis of research in an area of developmental psychology. Prerequisite: PSYCO 211, 223, and consent of Department. Note: Students are encouraged to check with the department for the topic for the current year.

PSYCO 458 Advanced Cognitive Psychology
★3 (second term, 3-0-0). Focus on discussing published research in a particular area of human cognition using theoretical and methodological evaluative criteria. Opportunity for supervised research. Prerequisite: PSYCO 258 or 353, and consent of Department.

PSYCO 491 Psychology of Self-Estrangement
★3 (either term, 3-0-0). Basic description of self-deception and self-estrangement in psychoanalytic and existential humanistic theories. Discussion of basic determinants of self-deception and, alternatively, self-awareness, as well as considerations of the methods of inquiry appropriate to the area. Prerequisite: PSYCO 233.

PSYCO 493 Phenomenology and Psychological Research
★3 (either term, 3-0-2). An intensive study of methods for investigating variations in self-reported experience. The development, use, and validation of methods for studying self-reported experience in psychological research will be stressed. Supervised research. Prerequisite: PSYCO 104/105, 211, and either 491 or 495.

PSYCO 494 Environmental Psychology
★3 (either term, 3-0-3). An introduction to research and methods contributing to understanding how landscape, climate, physical structures influence behavior, affect and cognition. Materials discussed in class will form the basis of individual research projects. Prerequisite: PSYCO 211, and one of 208, 266, or 267.

PSYCO 495 Psychology of Aesthetics
★3 (second term, 3-0-0). An introduction to the psychological analysis of response to art. Consideration is both theoretical and empirical. Illustrative materials are drawn from several arts, including painting, sculpture and literature. The contribution of aesthetic behaviour to personality development is considered. Prerequisite: PSYCO 104/105 (or equivalent).

PSYCO 498 Individual Study I
★3 (first term, 3-0-0). A course intended to allow the senior undergraduate student to pursue a topic of interest in more depth than the classroom structure permits. The pursual may take the form of either directed reading or laboratory experience. Prerequisite: Consent of Department.

PSYCO 499 Individual Study II
★3 (second term, 3-0-0). A course intended to allow the senior undergraduate student to pursue a topic of interest in more depth than the classroom structure permits. The pursual may take the form of either directed reading or laboratory experience. Prerequisite: Consent of Department.

Note: For graduate courses in Psychology, refer to §204.71.5 of this Calendar.

44.34.3 Reserve List

The Department is unable to offer the following course regularly. Students should consult the Department and/or the University timetable.

PSYCO 455 Personality and Social Development
★3 (first term, 3-0-0). A review of psychological theory and research on age trends and individual differences in personality and social development. Prerequisite: PSYCO 223.

44.35 Religious Studies

The following tables lists renumbered courses effective 1990-91:

Old	New	Old	New
RELIG 200	RELIG 100	RELIG 203	RELIG 103
RELIG 202	RELIG 102	RELIG 204	RELIG 104

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
RELIG 300	RELIG 200	RELIG 349	RELIG 249
RELIG 308	RELIG 208	RELIG 350	RELIG 250
RELIG 312	RELIG 212	RELIG 360	RELIG 260
RELIG 315	RELIG 215	RELIG 361	RELIG 261
RELIG 321	RELIG 221	RELIG 363	RELIG 263
RELIG 325	RELIG 225	RELIG 380	RELIG 280
RELIG 331	RELIG 231	RELIG 381	RELIG 281
RELIG 342	RELIG 242	RELIG 385	RELIG 285
RELIG 348	RELIG 248	RELIG 390	RELIG 290

44.35.1 Junior Courses

Note: Students may take only one full course equivalent of RELIG 102, 103 or 104; or RELIG 100.

RELIG 100 Introduction to the Study of Religion
★6 (3-0-0). The origin and development of the history of religions as a separate academic discipline. Principles and methods of this discipline. Some account of the major living religions in their history and distinctive features.

RELIG 102 Introduction to the Western Religions
★3 (either term, 3-0-0). Historical survey of Judaism, Christianity and Islam, up to the present.

RELIG 103 Introduction to Ancient Religions
★3 (either term, 3-0-0). Survey of Egyptian, Mesopotamian, and Indo-European (Celtic, Teutonic, Slavic, Baltic) religions.

RELIG 104 Introduction to the Eastern Religions
★3 (either term, 3-0-0). Religions of India, China, Japan and South East Asia, up to the present.

44.35.2 Senior Courses

RELIG 200 Religions of South and East Asia
★6 (3-0-0). An in-depth thematic study of the religions of South and East Asia, in the context of comparison with cognate themes in the major western traditions.

RELIG 212 Japanese Religious Thought
★3 (either term, 3-0-0). An examination of the perception of the Divine, of Nature, of human beings embodied in the way of thinking and religious ideas of the Japanese.

RELIG 215 Chinese Religious Thought
★3 (either term, 3-0-0). An examination of the perception of the Divine, of Nature, of human beings in the way of thinking and religious ideas of the Chinese.

RELIG 221 Introduction to Islam
★3 (either term, 3-0-0). A survey of the main elements of the Muslim tradition and their role in the formation of Islamic culture.

RELIG 231 Introduction to the Hebrew Bible
★3 (either term, 3-0-0). Introduction to the literature an history of the Hebrew Bible (Old Testament).

RELIG 235 The Jewish Religious Tradition
★3 (either term, 3-0-0). An introduction to the varie world of Judaism: its way of life, beliefs, history, ar thought.

RELIG 242 Gnosticism and the Occult
★3 (either term, 3-0-0). A study of Gnosticism in th early Christian period with special reference to the new published Gnostic literature and an investigation of fiv esoteric occult systems: astrology, natural or whi magic, witchcraft, alchemy, and hermetic religious thoug in the Renaissance.

RELIG 248 The Christian Tradition
★3 (second term, 3-0-0). The classical themes in Chri tianity which have persisted from New Testament modern times: the message of Jesus, Kerygma, Churc Order, Development of Doctrine, The Canon, Churc and State, and Scripture and Its Interpretation.

RELIG 249 Introduction to the New Testament
★3 (either term, 3-0-0). A study of primitive Christia literature and apocrypha with a focus on developir literary images and theology.

RELIG 250 Jesus of Nazareth
★3 (either term, 3-0-0). A study of the life, death, ar resurrection of Jesus, and his influence in history.

RELIG 260 The Concept of Deity
★3 (either term, 3-0-0). Different concepts of God found in the major religions of the world.

RELIG 263 Religious Founders
★3 (either term, 3-0-0). An examination of the lives the founders of the world's major religious traditions wi special attention to their interpretation in devotion literature.

RELIG 277 Women and World Religions
★3 (either term, 3-0-0). We examine attitudes toward women in selected world religious traditions, specifical with respect to their participation in ritual and religiou leadership.

RELIG 280 Religious Beliefs of Native Peoples
★3 (either term, 3-0-0). A consideration of the religiou beliefs of the Inuit and North American Indians.

RELIG 285 Religions of Western Canada
★3 (either term, 3-0-0). A survey of the history, structur and socio-cultural impact of religious groups in Weste Canada.

RELIG 290 Introduction to the Religions of Africa
★3 (either term, 3-0-0). The religious traditions within specifically African vision of the world and of Being. Th course will also study critically the contact which Africa traditions have had with other religions.

RELIG 301 Hinduism I: Early Religious Thought of India
★3 (either term, 3-0-0). Study of the religion of th Vedas and the Upanishads, with the help of selecte texts.

RELIG 303 Buddhism in India: Hinayana
★3 (first term, 3-0-0). The origin and growth of ear Buddhism up to and including the development of th Hinayana tradition.

RELIG 304 Buddhism in India: Mahayana
★3 (second term, 3-0-0). The form of later Buddhism India. Prerequisite: RELIG 303.

RELIG 306 The Bhagavad Gita
★6 (3-0-0). Critical study of the Text.

RELIG 313 Zen and Japanese Culture
★3 (either term, 3-0-0). A study of the history, nature and meaning of Zen Buddhism, and its influence o various religious-aesthetic expressions of Japanese cu ture.

RELIG 314 Japanese Buddhism
★3 (either term, 3-0-0). A study of the history and th structure of Japanese Buddhism, as distinct from India and Chinese Buddhism.

RELIG 316 Taoism and Chinese Culture
★3 (either term, 3-0-0). A study of the history and th structure of Taoism, and its influence on the life, though and culture of the Chinese people.

RELIG 319 Chinese Buddhism
★3 (either term, 3-0-0). A study of the distinctive features of Chinese Buddhism, with particular reference to th origin and development of Chinese Zen (Ch'an) and t its meaning for East Asian Civilization.

RELIG 323 The Encounter of Islam and Christendom
★3 (either term, 3-0-0). Cultural and religious interactio of two world traditions.

RELIG 324 Sufism
★3 (either term, 3-0-0). Historical and doctrinal exam nation of the great Muslim mystics and their teachings

RELIG 327 Qur'anic Studies
★3 (either term, 3-0-0). An examination of the style, structure, and doctrine of the Qur'an.

RELIG 328 Contemporary Islamic Religious Movements
★3 (either term, 3-0-0). Recent developments in the philosophical, social, and religious life of Islam throughout the world.

RELIG 329 Islam through Cultural Forms
★3 (either term, 3-0-0). The religious vision of Islam through art, literature, and architecture.

RELIG 330 The Pentateuch
★3 (either term, 3-0-0). A critical study of the narrative and law of the first five books of the Bible.

RELIG 332 Intertestamental Literature
★3 (either term, 3-0-0). History and literature of the period between the Old and New Testaments, including: Apocalyptic, Pseudepigrapha, Dead Sea Scrolls, etc.

RELIG 333 The Prophets
★3 (either term, 3-0-0). A critical study of the second section of the Hebrew Bible, including the historical books and the literary prophets, and its modern relevance.

RELIG 334 The Writings
★3 (either term, 3-0-0). A critical study of the third section of the Hebrew Bible, including the wisdom tradition and lyric poetry, e.g., Psalms, Job, Song of Songs.

RELIG 335 Classical Judaism
★3 (either term, 3-0-0). The development of the rabbinic tradition after the destruction of the Temple in 70 A.D. Note: Not open to students with credit in old RELIG 335 Religious Thought in Judaism and RELIG 338 Judaism and the Jewish People.

RELIG 336 Medieval and Modern Judaism
★3 (either term, 3-0-0). Studies in various expressions of Jewish thought in the medieval and modern periods. Note: Not open to students with credit in RELIG 335 Religious Thought in Judaism, and RELIG 338 Judaism and the Jewish People.

RELIG 339 Judaism in the Twentieth Century
★3 (either term, 3-0-0). The Jewish responses to the crises of the twentieth century including the Holocaust and the founding of the State of Israel.

RELIG 340 The Jewish Mystical Tradition
★3 (either term, 3-0-0). Studies in Jewish mysticism from the earliest period to modern times.

RELIG 351 Synoptic Gospels
★6 (3-0-0). A comparative and historical analysis of the purpose, characteristics, and problems of the first three gospels.

RELIG 352 The Johannine Literature
★3 (either term, 3-0-0). Comparative and historical study of the Johannine writings.

RELIG 353 The New Testament Epistles
★6 (3-0-0). A historical and comparative study.

RELIG 356 Christian Theology I
★3 (either term, 3-0-0). The emergence of the Catholic tradition and the growth of medieval theology to 1300.

RELIG 357 Christian Theology II
★3 (either term, 3-0-0). The spirit of eastern Christendom, reformation, and modern theology to present time.

RELIG 358 John Calvin
★3 (either term, 3-0-0). Calvin and his Institutes in the context of the Reformation.

RELIG 359 Martin Luther
★3 (either term, 3-0-0). A critical study of Luther, his theology and impact on the Reformation.

RELIG 365 Comparative Studies in Religious Mythology
★3 (either term, 3-0-0). An introduction to the modern study of religious mythology in several cultures. Focus on some major mythic themes such as creation, origin of death, etc.

RELIG 366 Shamanism
★3 (either term, 3-0-0). A study of shamanism in the history of religions with special attention to myths, rituals, symbols, and the ecstatic experience.

RELIG 372 Contemporary Religious Thought
★3 (either term, 3-0-0). A survey of modern religious thought.

RELIG 373 Contemporary Issues in Religious Ethics
★3 (either term, 3-0-0). Contemporary problems in religious ethics and their impact on collective decision-making in the areas of politics, medicine, law, etc.

RELIG 375 Thanatology
★3 (either term, 3-0-0). A consideration of death and dying in the great religious traditions, with particular emphasis on the recent literature.

RELIG 406 The Madhyamika
★3 (either term, 3-0-0). A study in depth of the religious philosophy of Nagarjuna.

RELIG 407 The Vedanta
★3 (either term, 3-0-0). A study in depth of the religious philosophy of Shankara and his followers.

RELIG 410 Myths, Legends, and Folklore in Japan
★3 (either term, 3-0-0). An intensive study of the structure and meaning of Japanese myths and folklore from a comparative, cross-cultural perspective.

RELIG 411 Myths, Legends, and Folklore in China
★3 (either term, 3-0-0). An intensive study of the structure and meaning of Chinese myths, and legends, and folklore. Attention will be given to different approaches and methods.

RELIG 412 Taoism
★3 (either term, 3-0-0). An intensive study of the structure and meaning of Taoism. Attention will be given to different approaches and methods. Prerequisite: RELIG 215 or 316, or consent of Department.

RELIG 425 Islamic Religious Texts
★3 (either term, 3-0-0). A study of selected Islamic texts, e.g. Qur'an, hadith, exegetical literature or theological writings. Prerequisite: One 300-level course in Islamic Studies, or consent of Department.

INT D 430 Problems and Topics in Middle Eastern Studies
★3 (either term, 3-0-0). (Offered jointly by the Departments of History, Political Science, Sociology and Religious Studies). [Religious Studies]. Prerequisite: Consent of one of the participating Departments.

RELIG 430 Studies in Hebrew Bible Texts
★3 (either term, 3-0-0). Detailed study of individual books of the Hebrew Bible and related themes. Prerequisite: One 300-level course in the Hebrew Bible (Old Testament) or consent of Department.

RELIG 431 Studies in Rabbinic Texts
★3 (either term, 3-0-0). Rabbinic Judaism through selections from the Mishna, Talmud, Tosefta, and Midrash. Prerequisite: One 300-level course in Judaism, or consent of Department.

RELIG 432 Studies in New Testament Texts
★3 (either term, 3-0-0). A literary historical, comparative and theological study of selected texts, e.g. the Book of Revelation, with particular attention to recurring Biblical imagery. Note: Not open to students with credit in RELIG 354 The Markan Gospel and RELIG 355 Luke-Acts.

RELIG 433 Use of Old Testament in New Testament
★3 (either term, 3-0-0). A study of the use of the Old Testament in the New Testament, including a study of the relation of the two testaments. Note: Not open to students with credit in RELIG 347.

RELIG 451 Mysticism
★6 (3-0-0). This course will examine religious man's mystical experiences in different traditions.

RELIG 462 Methodology in Religious Studies
★6 (3-0-0). A study of how one arrives at normative patterns.

RELIG 465 Myths and Symbols
★3 (either term, 3-0-0). An intensive study of recent theories of religious myths and symbols. Prerequisite: RELIG 261 or 365, or consent of Department.

RELIG 471 Religious Traditions in Western Canada
★3 (either term, 3-0-0). An examination of the religious traditions of the peoples of Western Canada and their response to secularization, modernity and pluralism. Prerequisite: RELIG 285 or consent of Department.

RELIG 473 Religious Ethics in Multicultural Society
★3 (either term, 3-0-0). An examination of selected contemporary ethical issues in the light of the major religions of Alberta. Prerequisite: RELIG 285 or 373 or 471 or consent of Department.

RELIG 480 Directed Reading in Religious Studies
★6 (3-0-0). Prerequisite: Consent of Department.

RELIG 481 Directed Reading in Religious Studies
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

RELIG 482 Directed Reading in Religious Studies
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

RELIG 499 Reading Seminar
★3 (either term, 0-3s-0) or ★6 (0-3s-0). Prerequisite: Consent of Department.

RELIG 501 Honors Essay in Religious Studies
★6 (0-3s-0). Preparation of the Honors essay.

RELIG 510 Topics in Indian Religions
★3 (either term, 3-0-0) or ★6 (3-0-0). Examination of the main religious and philosophical themes in Vedas, Upanishads, Vedanta.

RELIG 511 Topics in Islam
★3 (either term, 3-0-0) or ★6 (3-0-0).

RELIG 512 Topics in East Asian Religions
★3 (either term, 3-0-0) or ★6 (3-0-0).

RELIG 513 Topics in Judaism
★3 (either term, 3-0-0) or ★6 (3-0-0).

RELIG 514 Topics in Christianity
★3 (either term, 3-0-0) or ★6 (3-0-0).

44.35.3 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department and/or the University timetable.

RELIG 208 Introduction to the Six Systems of Indian Philosophy
★3 (either term, 3-0-0). An overview of the classical religious philosophies of India.

RELIG 225 Islamic Religious Thought
★3 (either term, 3-0-0). A study of the intellectual tradition in Islam as found in its great thinkers throughout Muslim history.

RELIG 261 Religious Symbolism
★3 (either term, 3-0-0). A comparative study of religious symbols in the various religions of the world; primitive, classical and modern. Attention will be given to different approaches and methods.

RELIG 281 Themes of Pre-literate Religious Tradition
★3 (either term, 3-0-0). A study of specific themes in the religious life of pre-literate peoples, e.g., shamanism, myths, revitalization movements, etc.

RELIG 302 Hinduism II: Modern Religious Thought of India
★3 (either term, 3-0-0). Study of medieval Hinduism, Sikhism and of the nineteenth and twentieth century religious movements and thinkers.

RELIG 307 The Yogacara
★3 (either term, 3-0-0). The religious idealism of one of the two major schools of the Mahayana.

RELIG 309 The Religions of India Through Art
★3 (either term, 3-0-0). A study of the religions of India through the art and architecture of Hinduism, Buddhism, Jainism, and Islam.

44.36 Romance Linguistics

Department of Romance Languages

44.36.1 Senior Courses

None of these courses will fulfill the Language other than English requirement of the BA degree.

R LIN 370 Old French
★3 (either term, 3-0-0). An introduction to the grammatical structure and pronunciation of Old French (ninth to thirteenth centuries). Prerequisite: Any junior-or senior-level French course, except FREN 100, or consent of Department.

R LIN 372 French Phonetics
★3 (either term, 3-0-0). An introduction to French phonetics focusing on the recognition and elimination of pronunciation difficulties for English speakers. Francophones are advised to take R LIN 320 (Faculté Saint-Jean) but may be accommodated in R LIN 372. Note: Not open for credit to students having credit or registered in Faculté Saint-Jean LIN R 320.

R LIN 375 The Grammatical Structure of French
★3 (either term, 3-0-0). A linguistic introduction to the parts of speech and to sentence structure. Note: Not open for credit to students having credit or registered in Faculté Saint-Jean LIN R 321. Prerequisite: FREN 150 or 152.

R LIN 376 The Structure of French Orthography
★3 (either term, 3-0-0). A brief study of the evolution of French orthographic system, followed by a systematic analysis of its main characteristics, and its relationship to the sound system and the grammatical system.

R LIN 380 The Structure of Spanish
★3 (either term, 3-0-0). An introduction to the phonology and syntax of Spanish with a brief consideration of its relationship to other Romance languages. Prerequisite: SPAN 100 or consent of Department.

R LIN 390 The Languages of Italy
★3 (either term, 3-0-0). An introduction to the Romance dialects of Italy, their structure and interrelationships.

R LIN 395 Introduction to the Romance Languages
★3 (either term, 3-0-0). The modern Romance languages, their structure and interrelationships. Note: This course cannot be used to fulfill the Social Sciences Group B requirement of the BA degree by students with a major or second subject offered by the Department of Romance Languages.

R LIN 401 Applied Linguistics: French Phonology
★3 (either term, 3-0-0). An in-depth study of the French sound system, with an introduction to fundamental principles and methods of contrastive phonological analysis. Prerequisite: R LIN 372.

R LIN 402 Applied Linguistics: French Morphology and Syntax
★3 (either term, 3-0-0). An in-depth study of the morphological and syntactic structures of French with an introduction to the principles and methods of contrastive grammatical analysis. Prerequisite: R LIN 375.

R LIN 417 Introduction to Historical Romance Linguistics
★3 (either term, 3-0-0). The major phonological and grammatical changes from Latin to the modern Romance Languages are presented in relation to certain basic theories and methods of historical linguistics. Note: Not open for credit to students having credit or registered in Faculté Saint-Jean LIN R 322. Note: This course cannot be used to fulfill the Social Sciences Group B requirement of the BA degree by students with a major or second subject offered by the Department of Romance Languages. Prerequisite: R LIN 370 or 375 or 380 or 390 or 395. Not open to students with credit in R LIN 397.

R LIN 440 The Structure of Portuguese
★3 (either term, 3-0-0). An introduction to the phonology and syntax of Portuguese with a brief consideration of its relationship to other Romance Languages. Prerequisite: R LIN 375 or 380 or 390 or 395. Note: Not to be taken by students with credit in PORT 502.

R LIN 450 Introduction to Discourse Analysis in the Romance Languages
★3 (either term, 3-0-0). A survey of current research on discourse in the Romance Languages accompanied by practical assignments on selected topics. Prerequisite: R LIN 375 or 380 or 390 or 395.

R LIN 460 The Structure of Romanian
★3 (either term, 3-0-0). An introduction to the phonology and syntax of Romanian with a brief consideration of its relationship to other Romance languages. Prerequisite: R LIN 375 or 380 or 390 or 395. Not open to students with credit in R LIN 360.

R LIN 470 History of the French Language
★3 (either term, 3-0-0). The development of French from Latin to the Modern Language. Prerequisite: Any senior-level course in Romance Linguistics or Linguistics, plus a 100-level (or above) course in French or equivalent.

R LIN 472 Advanced French Phonetics
★3 (either term, 3-0-0). Intensive study and practice of French phonetics at the level of sentence and discourse, with particular attention to intonational patterns. Prerequisite: R LIN 372 or consent of Department.

R LIN 474 The Structure of Canadian French
★3 (either term, 3-0-0). Prerequisite: Any senior-level course in Romance Linguistics or Linguistics, plus a 100-level (or above) course in French or equivalent.

R LIN 478 French Semantics: The Dynamics of Meaning
★3 (either term, 3-0-0). A systematic study of the Modern French vocabulary from the point of view of semantic fields, with particular emphasis on changes in meaning and their various causes. Prerequisite: R LIN 375 or LING 303 or equivalent, or consent of Department.

R LIN 480 Romance Structure: from Latin to Spanish
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Any senior-level course in Romance Linguistics or Linguistics, plus a 100-level (or above) course in Spanish or equivalent. Not open to students with credit in R LIN 580.

R LIN 490 Romance Structure: from Latin to Italian
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Any senior-level course in Romance Linguistics or Linguistics, plus a 100-level (or above) course in Italian or equivalent. Not open to students with credit in R LIN 590.

R LIN 499 Conference Course
★3 (either term, 3-0-0) or ★6 (3-0-0). Designed to meet the needs of individual students. Prerequisite: Consent of Department.

44.36.2 Honors and Graduate Courses

None of these courses will fulfill the Language other than English requirement of the BA degree.

R LIN 501 Topics in Applied Romance Linguistics: Phonology
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

R LIN 502 Topics in Applied Romance Linguistics: Morphology and Syntax
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

R LIN 503 Early Romance
★3 (either term, 3-0-0). The linguistic evolution from Latin until the appearance of the first Romance texts. Prerequisite: Two 3 weight courses in Romance linguistics or equivalent. Students cannot receive credit in both R LIN 503 and 505.

R LIN 504 Seminar in Portuguese
★3 (second term, 0-3s-0). Prerequisite: R LIN 440.

R LIN 508 Seminar in Romanian
★3 (second term, 0-3s-0). Prerequisite: R LIN 360.

R LIN 511 Seminar in Applied Romance Linguistics
★3 (either term, 0-3s-0) or ★6 (0-3s-0). Detailed study of a selected topic for Honors or Graduate students.

R LIN 550 Topics in Historical-Comparative Romance Linguistics
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

R LIN 583 Applied Romance Linguistics: The Use of the Computer as a Research Tool
★3 (either term, 3-0-0). Prerequisite: R LIN 501 or 502. Not open to students with credit in R LIN 683.

R LIN 585 Experimental Methods and Design in Applied Romance Linguistics
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: LING 541.

R LIN 595 Seminar in Comparative Romance Linguistics
★3 (either term, 3-0-0). Prerequisite: R LIN 503.

R LIN 599 Directed Studies
★3 (either term, 3-0-0) or ★6 (3-0-0). Designed to meet the needs of individual students. Prerequisite: Consent of Department.

Note: For additional courses related to Romance Linguistics, see French in §44.17, Romance Literatures in §44.37, and Spanish in 44.43.

Note: For graduate courses in Romance Linguistics at the 600-level, refer to §204.74.4 of this Calendar.

44.37 Romance Literatures

Department of Romance Languages

44.37.1 Honors and Graduate Courses

R LIT 500 Bibliography and Thesis Style
★1 (first term, 0-1s-0). Prerequisite: Consent of Department.

R LIT 505 Honors Seminar in Romance Literatures
★3 (either term, 0-3s-0) or ★6 (0-3s-0). Prerequisite: Honors standing in Romance Languages. Ability to follow lectures, discuss, and write assignments in more than one Romance language.

44.38 Russian

Department of Slavic and East European Studies

The following table lists renumbered courses effective 1990-91:

Old	New
RUSS 210	RUSS 160

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
RUSS 303	RUSS 201	RUSS 311	RUSS 261
RUSS 304	RUSS 202	RUSS 312	RUSS 262
RUSS 301	RUSS 203	RUSS 315	RUSS 215
RUSS 305	RUSS 205	RUSS 316	RUSS 216

Students requiring information about program planning and course selections for the Dalhousie University - University of Alberta Russian Studies Program in the USSR (see §43.24.6) should consult an undergraduate adviser in the Department of Slavic and East European Studies.

44.38.1 Junior Courses

The following courses are not open to students with credit in matriculation-level Russian.

RUSS 100 Beginners' Russian
★6 (3-0-2). Essentials of grammar, reading, and pronunciation. Designed to give a working knowledge of the Russian language.

RUSS 160 Reading Russian
★6 (3-0-0). An introduction to the grammar and vocabulary of Russian essential for the comprehension of original texts in the Natural Sciences, Social Sciences or Humanities. Note: Not accepted to meet concentration requirements in Russian.

44.38.2 Senior Courses

RUSS 201 Second-Year Russian I
★3 (first term, 3-0-1). Russian grammar, composition, oral practice, and reading of selected texts of Russian classical and contemporary literature. Prerequisite: Consent of Department.

RUSS 202 Second-Year Russian II
★3 (second term, 3-0-1). This course is a continuation of RUSS 303. Prerequisite: RUSS 201.

RUSS 203 Intensive Second-Year Russian
★6 (second term, 8-0-2). In-depth intensive coverage of Russian morphology with emphasis on communicative skills. Prerequisite: RUSS 100, or 101, or consent of Department.

RUSS 205 Second-Year Practical Study
★3 (0-0-2). Development of oral skills. Recommended for students taking RUSS 201 and 202. Prerequisite: RUSS 203. Prerequisite or corequisite: RUSS 201 and 202.

RUSS 215 Assisted Readings I
★3 (first term, 3-0-0). Introduction to the study of Russian literature in the original. Assisted reading and analysis of selected texts from pre-twentieth century Russian literature. Prerequisite or corequisite: RUSS 201 or 203 or consent of Department.

RUSS 216 Assisted Readings II
★3 (second term, 3-0-0). Assisted reading and analysis of selected texts from twentieth-century Russian literature. Prerequisite or corequisite: RUSS 202 or 203 and RUSS 215 or consent of Department.

RUSS 261 Advanced Reading Russian I
★3 (first term, 3-0-0). A continuation of RUSS 160, this course is designed to give students a sufficient command of the language to enable them to translate advanced Russian texts in their field of study. Prerequisite: RUSS 160 or consent of Department.

RUSS 262 Advanced Reading Russian II
★3 (second term, 3-0-0). This course is designed as a continuation of RUSS 261; Russian articles of current interest will be discussed and translated. Note: Students who obtain a pass grade in this course will be considered by the Department as having satisfied the reading requirement in Russian for the MSc or PhD at the University of Alberta. Prerequisite: RUSS 261.

RUSS 320 Masterpieces of Russian Literature (in Translation)
★3 (first term, 3-0-0). A survey of the outstanding authors and literary trends in pre-twentieth century Russian literature with primary emphasis on the nineteenth century. Note: See §43.24.4(2)(c). This course will not fulfill the Language other than English requirement of the BA degree.

RUSS 321 Twentieth-Century Russian Literature in Translation
★3 (second term, 3-0-0). A study of pre-revolutionary modernist, early Soviet, and recent Soviet literature. Note: See §43.24.4(2)(c). This course will not fulfill the Language other than English requirement of the BA degree.

RUSS 323 Tolstoy and Dostoevsky in Translation
★3 (second term, 3-0-0). An in-depth study of Russian literature's foremost novelists of the nineteenth century. Note: See §43.24.4(2)(c). This course will not fulfill the Language other than English requirement of the BA degree.

RUSS 326 Russian Culture
★6 (3-0-0). A survey of Russian culture and civilization stressing major developments in literature and the fine arts. Note: Not accepted to meet concentration requirements for the BA (General) in Russian. This course will not fulfill the Language other than English requirement of the BA degree.

RUSS 401 Third-Year Russian I
★3 (either term, 3-0-0). Discussion of difficult grammatical points in Russian, vocabulary building, development

comprehension of spoken Russian. Prerequisite: RUSS 2 or 203, or consent of Department.

SS 402 Third-Year Russian II
(either term, 3-0-0). This course is a continuation of SS 401, with greater emphasis on composition. Pre- uisite: RUSS 401 or consent of Department.

SS 405 Third-Year Practical Study
(0-0-2). Development of oral skills. Recommended students taking RUSS 401 and 402. Prerequisite or equisite: RUSS 401 and 402.

SS 406 Intensive Oral Russian
(either term, 3-0-0). Intensive conversation course. erequisite: RUSS 202 or 203 or consent of Department.

SS 411 Russian Poetry
(either term, 3-0-0). Developments in Russian poetry m the inception of the syllabo-tonic tradition with ecial emphasis on the nineteenth century. Prerequi- e: RUSS 216, or consent of Department. Note: Not en to students with credit in RUSS 412, Russian etry.

SS 412 Russian Drama and Theatre
(either term, 3-0-0). Studies in the Russian drama m the age of Classicism onward. Prerequisite: RUSS 1, or consent of Department. Note: Not open to dents with credit in RUSS 411 Russian Drama and eatre.

SS 422 Russian Cinema
(either term, 3-0-0). A survey of the history of ssian film from silent to present, including a close dy of Russian film masterpieces. Prerequisite or requisite: RUSS 401, or consent of Department.

SS 423 Russian Short Story (1960s - 1980s)
(either term, 3-0-0). Studies of the Russian literary ocess on the material of the short story genre with nphasis on the ways in which Socialist Realism was rcome inside and outside the Soviet Union. The rse is directed toward senior undergraduate and aduate students. Prerequisite or corequisite: RUSS 01, or consent of Department.

SS 443 Russian-English Translation
(either term, 3-0-0). Exercises in translation with mphasis on both literary and non-literary texts. Prereq- site: RUSS 202, or consent of Department. Not open students with credit in RUSS 441 or 442.

SS 444 English-Russian Translation
(either term, 3-0-0). Exercises in translation with mphasis on both literary and non-literary texts. Prereq- site: RUSS 202, or consent of Department. Not open students with credit in RUSS 441 or 442. Not recom- ended for students with native knowledge of Russian.

SS 453 Russian Phonetics
(either term, 3-0-1). Scientific study of Russian ound system. Practice in phonetic discrimination and anscription. Practical exercises to assist students in nproving their pronunciation. Prerequisite: RUSS 202 r 203 or consent of Department.

SS 454 Russian Morphology and Syntax
(either term, 3-0-0). Study of the morphological and yntactic system of Russian. Prerequisite: RUSS 453 or onsent of Department.

SS 462 Russian Literature of the Late Nineteenth nd Early Twentieth Centuries
(either term, 3-0-0). The main trends in Russian terature of the late nineteenth and early twentieth enturies up to the revolutionary period. Prerequisite: SS 216, or consent of Department.

SS 479 Honors Thesis
(either term, 3-0-0). Directed Honors thesis re- earch. Note: Required of all BA (Honors) students najoring in Russian who are in their final year of study.

SS 481 Russian Literature After The Revolution
(either term, 3-0-0). Russian literature since 1917, with emphasis on the twenties and on the origin and levelopment of Socialist realism. Prerequisite: RUSS 216, or consent of Department.

SS 482 Contemporary Soviet Russian Literature
(either term, 3-0-0). A continuation of RUSS 481, his course will emphasize the thirties and the post- talinist period. Prerequisite: RUSS 481 or consent of Department.

SS 498 Conference Course (Linguistics)
(either term, 3-0-0). Students as well as staff may initiate proposals in any given year for the content of this course. Please consult the Department Chair for the procedure for student-initiated proposals.

SS 499 Conference Course (Literature/Folklore)
(either term, 3-0-0) or ★6 (3-0-0). Students as well as staff may initiate proposals in any given year for the content of this course. Please consult the Department Chair for the procedure for student-initiated proposals.

44.38.3 Honors and Graduate Courses

RUSS 500 Reading Course
★6 (3-0-0). This course is for graduate students who wish to satisfy the language requirement of their Department. An intensive study of essential grammar, reading of graded texts, and translation of texts from the student's own field. Note: Not open to undergraduates.

RUSS 501 Composition and Conversation I
★3 (either term, 3-0-0).

RUSS 502 Composition and Conversation II
★3 (either term, 3-0-0).

RUSS 511 The Structure of Russian I: Syntax
★3 (either term, 3-0-0).

RUSS 512 The Structure of Russian II: Phonology
★3 (either term, 3-0-0).

RUSS 516 Medieval Muscovite Literature
★3 (either term, 3-0-0). Russian literature from the fourteenth century through the seventeenth.

RUSS 551 Eighteenth Century Russian Literature and Culture
★3 (either term, 3-0-0). Russian literature during the century of Russia's Europeanization.

RUSS 555 Russian-English: Contrastive Linguistics
★3 (either term, 3-0-0). Contrastive study of the phonology, morphology and syntax of Russian and English with emphasis on second language acquisition. Prerequisite: RUSS 202 or 203, or 453, or consent of Department.

RUSS 571 History of Russian Criticism
★3 (either term, 3-0-0). A detailed study with emphasis on the nineteenth and twentieth centuries.

RUSS 572 Russian Literary Theory
★3 (either term, 3-0-0). A detailed study with emphasis on formalism and realism.

44.38.4 Reserve List

The Department is unable to offer the following course regularly. Students should consult the Department and/or the University timetable.

RUSS 101 Intensive Introductory Russian
★6 (either term, 8-0-2). Fundamentals of Russian grammar, pronunciation and reading.

RUSS 451 Cultural History of the Russian Language
★3 (either term, 3-0-0). The growth and development of Russian from its origins to the present day. Prerequisite: RUSS 202 or 203 or consent of Department.

44.39 Scandinavian

Department of Germanic Languages

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
SCAND 100	NORW 100	SCAND 300	NORW 200
SCAND 101	SWED 100	SCAND 301	SWED 200
SCAND 250	SCAND 175	SCAND 400	NORW 400

See also §44.30 Norwegian and §44.44 Swedish.

44.39.1 Junior Courses

SCAND 175 Introduction to Scandinavian Language and Literature
★6 (3-0-0). Lectures and readings in English on topics in the literary, intellectual and social history of Norway, Sweden, Denmark and Iceland. This course will not fulfill the Language other than English requirement of the BA degree.

44.39.2 Senior Courses

SCAND 340 Old Norse Sagas and Mythology
★6 (3-0-0). The cultural and historical background of the period. Selections in English from the Eddas and Sagas, followed by a brief survey of skaldic poetry and folk literature. This course will not fulfill the Language other than English requirement of the BA degree.

SCAND 345 Literature, Culture and Civilization from the Reformation to the 20th Century
★6 (3-0-0). Selections in English of representative authors from each of the major literary periods, with special attention to the cultural and historical background. This course will not fulfill the Language other than English requirement of the BA degree.

SCAND 351 Modern Norwegian Literature in English
★3 (first term, 3-0-0). The dramas of Ibsen and representative prose works (e.g., Hamsun, Undset). This couse will not fulfill the Language other than English requirement of the BA degree.

SCAND 352 Modern Danish and Swedish Literature in English
★3 (second term, 3-0-0). The dramas of Strindberg and representative prose works (e.g., Andersen, Jacobsen, and Lagerkvist). This course will not fulfill the Language other than English requirement of the BA degree.

SCAND 410 Comparative Scandinavian Grammar and Stylistics
★6 (3-0-0). A comparative analysis of modern Norwegian, Swedish and Danish, with special concentration on advanced composition and stylistics in the student's target language. Prerequisite: NORW 200, or SWED 200, or consent of Department.

SCAND 450 History of the Scandinavian Languages
★6 (3-0-0). After a brief survey of Old Norse, runic inscriptions will be examined, and then the development of the modern Scandinavian languages and their main dialects will be traced from the beginnings to the present. Note: Not to be taken by students with credit in SCAND 405. Prerequisite: NORW 200, or SWED 200, or consent of Department.

SCAND 475 Eighteenth and Nineteenth Century Scandinavian Literature
★6 (3-0-0). The development of Scandinavian Literature in the original from Holberg to the beginnings of Expressionism. Special emphasis in the second term on the dramas of Ibsen. Prerequisite: NORW 200, or SWED 200, or consent of Department.

SCAND 480 Modern Scandinavian Literature
★6 (3-0-0). Scandinavian literature in the original during the late nineteenth and twentieth centuries. Special emphasis on the plays of Strindberg. Prerequisite: NORW 200, or SWED 200, or consent of Department.

SCAND 485 Studies in Scandinavian Drama
★3 (either term, 3-0-0). Prerequisite: NORW 200 or SWED 200, or consent of Department.

SCAND 486 Studies in the Scandinavian Short Story
★3 (either term, 3-0-0). Prerequisite: NORW 200 or SWED 200, or consent of Department.

SCAND 487 Studies in the Scandinavian Novel
★3 (either term, 3-0-0). Prerequisite: NORW 200 or SWED 200, or consent of Department.

SCAND 488 Studies in Scandinavian Poetry
★3 (either term, 3-0-0). Prerequisite: NORW 200 or SWED 200, or consent of Department.

SCAND 498 Special Topics in Scandinavian Languages and Literatures
★3 (either term, 3-0-0) or ★6 (3-0-0).

SCAND 499 Conference Course
★3 (either term, 3-0-0) or ★6 (3-0-0).

Note: For graduate courses in Scandinavian, refer to §204.36.4 of this Calendar.

Note: §44.40 Reserved

44.41 Slavics

Department of Slavic and East European Studies

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
INT D 201	INT D 101	INT D 202	INT D 102

None of these courses will fulfill the Language other than English requirement of the BA degree.

44.41.1 Junior Courses

INT D 101 The Slavic World I
★3 (first term, 3-0-0). Cultural developments in the Slavic lands from the early Middle Ages through Romanticism, with emphasis on literature and the fine arts. Trends such as the Renaissance, Baroque, Classicism and Romanticism will be examined. [Slavic and East European Studies].

INT D 102 The Slavic World II
★3 (second term, 3-0-0). Cultural developments in the Slavic lands from the mid-nineteenth century to the present, with emphasis on literature and the fine arts. Trends such as realism and modernism will be examined. [Slavic and East European Studies].

44.41.2 Senior Courses

SLAV 403 The Modern Slavic Languages in Their Historical Setting
★3 (first term, 3-0-0). An investigation of the development of Proto-Slavic from its Indo-European origin until its disintegration into those dialects which form the basis of the modern Slavic literary languages. Prerequisite: At least one year of a Slavic language.

SLAV 420 Old Church Slavonic I
★3 (either term, 3-0-0). An introduction to the grammar of the oldest Slavic texts, with selected readings. Prerequisite: RUSS 202 or UKR 150 or UKR 202 or POLSH 202 or consent of Department.

SLAV 421 Old Church Slavonic II
★3 (either term, 3-0-0). A continuation of SLAV 420. Prerequisite: SLAV 420.

SLAV 498 Conference Course (Linguistics)
★3 (either term, 3-0-0). Students as well as staff may initiate proposals in any given year for the content of this course. Please consult the Department Chair for the procedure for student-initiated proposals.

SLAV 499 Conference Course (Literature/Folklore)
★3 (either term, 3-0-0) or ★6 (3-0-0). Students as well as staff may initiate proposals in any given year for the content of this course. Please consult the Department Chair for the procedure for student-initiated proposals.

SLAV 515 Old East Slavic Literature
★3 (either term, 3-0-0). Survey of Old East Slavic literature up to the fourteenth century, with emphasis on literary documents from Kiev and Novgorod.

SLAV 518 Comparative Slavic Linguistics
★3 (either term, 3-0-0).

SLAV 522 Historical Grammar of East Slavic
★3 (either term, 3-0-0). Detailed discussion of some specific problems in the historical development of Russian, Ukrainian, and Byelorussian.

SLAV 561 History of the West Slavic Languages
★3 (either term, 3-0-0).

SLAV 562 History of the South Slavic Languages
★3 (either term, 3-0-0).

Note: For courses in Slavic and East European Studies, see §44.13.

44.42 Sociology

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
SOC 200	SOC 100	SOC 331	SOC 231
SOC 201	SOC 101	SOC 341	SOC 241
SOC 203	SOC 102	SOC 351	SOC 251
SOC 310	SOC 210	SOC 360	SOC 260
SOC 324	SOC 224	SOC 361	SOC 261
SOC 325	SOC 225	SOC 371	SOC 271
		SOC 403	SOC 300

44.42.1 Junior Courses

SOC 100 Introductory Sociology
★3 (either term, 3-0-0). An examination of the theory, methods and substance of sociology. The study of how societies are shaped including culture, socialization, deviance, stratification and groups. The process of social change through social movements, industrialization, etc. Note: Third-year or more advanced students should take SOC 300 rather than SOC 100. Not to be taken by students with credit in SOC 202 or 300.

SOC 101 Canadian Society
★3 (either term, 3-0-0). Development of Canadian society: including such topics as French-English relations, regionalism, relations with the USA, native rights, Canadian mosaic, inequalities and conflicts. Prerequisite: One of SOC 100, 202 or 300. Note: Not to be taken by students with credit in SOC 322.

SOC 102 Social Problems
★3 (either term, 3-0-0). The definition/development of social problems and an examination of selected structural issues in various societies, including inequality, population growth, environment, and human rights. Prerequisite: One of SOC 100, 202 or 300. Note: May not be taken by students with credit in SOC 321.

44.42.2 Senior Courses

SOC 210 Introduction to Social Statistics
★3 (either term, 3-0-2). Statistical reasoning and techniques used by sociologists to summarize data and test hypotheses. Topics include describing distributions, cross-tabulations, scaling, probability, correlation/regression, and non-parametric tests. Prerequisite: One of SOC 100, 202 or 300. Note: Priority will be given to students in Arts programs. Not open to students with credit in prior specialized statistics courses such as MGTSC 306, 307, PSYCO 211, SOC 311, STAT 222, 235, 237, 255.

SOC 224 Sociology of Deviance and Conformity
★3 (either term, 3-0-0). Processes involved in defining behavior patterns as deviant; factors which influence conformity and change; examination of such behavior patterns as sexuality, alcoholism, drug use, and selected mental and physical disabilities; public reaction to such behavior. Prerequisite: One of SOC 100, 202 or 300. Note: Not to be taken by students with credit in SOC 320 or 321.

SOC 225 Criminology
★3 (either term, 3-0-0). Examination and attempted explanation of crime and juvenile delinquency, with an analysis of the social processes leading to criminal behavior. Prerequisite: One of SOC 100, 202 or 300.

SOC 231 Introduction to Theories of Society
★3 (either term, 3-0-0). Classical and contemporary perspectives on society and human nature. Problems of comparing and assessing social theories, e.g. issues such as the individual versus society, idealism versus materialism, conflict versus consensus. Prerequisite: One of SOC 100, 202 or 300. Note: Not to be taken by students with credit in SOC 332 or 333.

SOC 241 Social Psychology
★3 (either term, 3-0-0). An introduction to the study of individual and group behavior observed in social processes. Prerequisite: One of SOC 100, 202 or 300, or PSYCO 104 or 105; EDPSY 163 or 371. Note: SOC 241 and PSYCO 241 may not both be taken for credit.

SOC 251 Population Concerns
★3 (either term, 3-0-0). Population trends and problems in Canada and the rest of the world; social and cultural factors underlying fertility, mortality, and migration patterns and differentials; their relationship to the 'population explosion,' population composition and distribution; basic population methodology; urbanization; population theory and policy. Prerequisite: One of SOC 100, 202 or 300.

SOC 260 Inequality and Social Stratification
★3 (either term, 3-0-0). Introduction to the study of structured social inequalities and poverty; major theoretical approaches; findings from key empirical studies, with emphasis on Canada. Prerequisite: One of SOC 100, 202 or 300.

SOC 261 Social Organization
★3 (either term, 3-0-0). Social systems, their components, interrelations, and the bases of social differentiation and integration. Prerequisite: One of SOC 100, 202 or 300.

SOC 271 Introduction to the Family
★3 (either term, 3-0-0). An introduction to the study of family relationships and their variant forms with focus on mate selection, couple, kin, age and gender dynamics, family dissolution or reconstitution and change. A comparative approach with emphasis on families in Canada. Prerequisite: One of SOC 100, 202, or 300.

SOC 300 Principles of Sociology
★3 (either term, 3-0-0). Basic concepts and principles of Sociology for students with advanced standing. Prerequisite: Third-year or more advanced standing. Note: May not be taken for credit by students with credit in SOC 100 or 202. Not an acceptable course when Sociology is taken as a second subject.

SOC 301 Sociology of Gender
★3 (either term, 3-0-0). Comparative study of sex roles in selected societies with an emphasis upon contemporary Canada; sex-specific role behaviors and theories regarding their origin; recent sociological research on the social effects of sex roles. Prerequisite: One of SOC 100, 202 or 300.

SOC 308 Honors Seminar
★3 (either term, 0-3s-0). Introduction to specialization areas in Sociology and Department members involved in teaching and research in these areas. Prerequisite: Consent of the Honors Advisor. Note: Restricted to Sociology Honors students. Required first term after entering Sociology Honors Program.

SOC 315 Introduction to Social Methodology
★3 (either term, 3-0-2). Research design, data collection, and data processing strategies used by sociologists. Topics include research values and ethics, reliability and validity, experimentation, survey research techniques, historical methods, field research, and content analysis. Prerequisite: SOC 210. Note: Not to be taken by students with credit in SOC 311.

SOC 327 Criminal Justice Administration in Canada
★3 (either term, 3-0-0). The evolution and evaluation of the theories of punishment; the law, the police and the courts; penal and reformatory institutions; probation, parole; experiments in reform and rehabilitation. Prerequisite: SOC 225.

SOC 332 The Development of Sociology I
★3 (either term, 3-0-0). A survey of the origin and development of classical sociological theory, with particular emphasis on Comte, Spencer, Marx, Durkheim, and Toennies. Prerequisite: One of SOC 100, 202 or 300. Note: Not to be taken by students with credit in SOC 331.

SOC 333 The Development of Sociology II
★3 (either term, 3-0-0). A survey of the contributions of modern and contemporary sociological theorists, particularly Weber, Pareto, Parsons, Mead, and others. Prerequisite: SOC 332. Note: Not to be taken by students with credit in SOC 231.

SOC 342 Socialization
★3 (either term, 3-0-0). The processes of social development and how socio-cultural influences affect the individual from infancy to old age. Prerequisite: SOC 241 or PSYCO 241.

SOC 343 Collective Behavior
★3 (either term, 3-0-0). Analysis of various forms of collective behavior, including crowds, mobs, social movements, and fugitive behavior patterns. Prerequisite: One of SOC 100, 202 or 300 or 241, or PSYCO 241.

SOC 344 Public Opinion and Mass Communication
★3 (either term, 3-0-0). Factors involved in the formation and assessment of public opinion; the role of the media in mass communication. Emphasis on Canadian society. Prerequisite: One of SOC 100, 202 or 300 or 241, or PSYCO 241.

INT D 346 Introduction to Eastern Europe and the Soviet Union
★6 (3-0-0). An interdisciplinary introduction to the study of the socialist system with special reference to the Soviet Union and East Europe. (Offered jointly by the Departments of Slavic and East European Studies, Comparative Literature, Economics, Geography, History, Political Science, Sociology.) [Slavic and East European Studies] Note: This course will not fulfill the Language other than English requirement of the BA degree.

SOC 352 Population, Social and Economic Development
★3 (either term, 3-0-0). Principles of growth and development in their historical context with regard to developed countries, such as Canada, and in their contemporary context with regard to underdeveloped countries. The interrelationships of economic, social and demographic variables in the process of development. Problems of urbanization and industrialization; factors influencing social change in the modern West or Asia or Latin America or Africa. Prerequisite: One of SOC 100, 202 or 300.

SOC 353 Urban Sociology
★3 (either term, 3-0-0). Social implications of urbanism with respect to such topics as patterns of city growth, urban social organization (family, neighborhood, community); urban social issues (housing, crime); urban policy and urban planning (sociology of planning, citizen participation). Prerequisite: One of SOC 100, 202 or 300.

INT D 356 Sociology of Rural Life
★3 (either term, 3-0-0). The rural community and rural social systems, with special reference to changes in the rural way of life. Prerequisite: R SOC 355, or one of SOC 100, 202 or 300. (Offered jointly by the Departments of Rural Economy and Sociology.) [Rural Economy]

SOC 362 Comparative Societies
★3 (either term, 3-0-0). An introduction to comparative sociology with attention to theoretical and methodological issues, and substantive problems in various kinds of societies. Prerequisite: One of SOC 100, 202 or 300.

SOC 363 Sociology of Work and Industry
★3 (either term, 3-0-0). Sociological analysis of the changing nature and content of work, its diversity in industrial contexts and organizational forms, and the consequences for individuals and society, from Canadian and comparative perspectives. Prerequisite: One of SOC 100, 202 or 300.

SOC 367 Knowledge and Human Society
★3 (either term, 3-0-0). The nature and assessment of knowledge (e.g. values and belief systems manifested in art, science, technology) in the context of social systems; the connection between competing systems of knowledge and social change. Prerequisite: One of SOC 100, 202 or 300.

SOC 368 Canadian Ethnic and Minority Relations
★3 (either term, 3-0-0). Analysis of social processes leading to the development and understanding of minority status: case studies of ethnic and minority-group relations, with reference to cross-national studies. Prerequisite: One of SOC 100, 202 or 300.

OC 372 Sociology of Canadian Development
3 (either term, 3-0-0). Approaches to understanding e dynamics of Canadian society such as staples, ites, social movements and political economy, and itical theory. Prerequisite: SOC 101.

OC 373 Sociology of Intimacy
3 (either term, 3-0-0). The sociological analysis of timate ties, their initiation, process, and termination. he course examines both kin and extra-kin primary lationships and focuses on interpersonal support, ommitment, love, family power, violence, and conflict solution. Prerequisite: One of SOC 241 or 271. Note: OC 373 and FAM 346 may not both be taken for credit.

OC 374 Sociology of Parent-Child Relationships
3 (either term, 3-0-0). Parent-child relationships through fancy, childhood, and adolescence. Focus is on family ynamics, interpersonal influence, and relationship changes. opics include parenting in two-parent, single-parent, nd step-per-parent families. Prerequisite: One of SOC 241 271. Note: SOC 374 and FAM 342 may not both be aken for credit.

OC 375 Sociology of Aging
3 (either term, 3-0-0). Aging as a socio-cultural phenomnon. Includes aging in relation to the self-concept, family, eligion, politics, health, retirement and leisure, housing, ttitudes toward death, with particular emphasis on Canadian ociety. Prerequisite: One of SOC 100, 202 or 300.

OC 376 Sociology of Religion
3 (either term, 3-0-0). Religion as a social phenomnon; theories of religious behavior; religious authority nd leadership; the individual's religion and the interplay ith other spheres of social life; the role of religion in elation to social change and social integration. Prereqisite: One of SOC 100, 202 or 300.

OC 377 Sociology of Youth
3 (either term, 3-0-0). The comparative analysis of outh in various types of societies, with special empha- is on Canada including investigation of social struc- ures and processes influencing behavior of young people. rerequisite: One of SOC 100, 202 or 300.

OC 382 Introduction to Medical Sociology
3 (either term, 3-0-0). The distribution of health and lness in human populations, the social psychology of ealth and illness, and the social organization of health are. Prerequisite: One of SOC 100, 202 or 300.

NT D 393 Political Sociology
3 (either term, 3-0-0). An examination of the impact of ocial organization and structure on the conduct of olitics in mass societies, and of the ways the organization nd structures of such societies are affected by political rocesses. Prerequisite: POL S 100, or 101 and 102; or ne of SOC 100, 202 or 300. (Offered jointly by the epartments of Political Science and Sociology.) [Politi- al Science].

NT D 394 Introduction to Criminal Law
3 (either term, 3-0-0). Prerequisite: SOC 225. Note: Primarily for BA (Criminology) students. [Sociology]

OC 399 Field Placement in Criminology
6 (0-16s-0). Supervised work experience and seminar essions. Note: Restricted to BA (Criminology) students.

OC 401 Honors Individual Study
3 (either term, 3-0-0). Individual study opportunity on opics for which no specific course is currently offered by he Department. Course may be taken once only. Prerequisite: Consent of instructor and Honors Adviser. Note: Restricted to Sociology Honors students.

OC 402 Selected Topics in Sociology
3 (either term, 3-0-0). Content varies from year to year. Topics announced prior to registration period. Prerequisite: One of SOC 100, 202 or 300. Note: Not an acceptable 400-level course when Sociology is taken as a second subject.

OC 407 Honors Essay I
3 (either term, 3-0-0). Literature review and proposal stage of Honors Essay completed in SOC 408. Prerequisite: Consent of instructor and Honors Adviser. Note: Restricted to Sociology Honors students.

OC 408 Honors Essay II
3 (either term, 3-0-0). Prerequisite: SOC 407 and consent of instructor and Honors Adviser. Note: Restricted to Sociology Honors students.

OC 410 Multi-Variable Sociological Analysis
3 (either term, 3-0-2). Further study of the use of multivariable tabular analysis and multiple correlation/regression in social research. Special emphasis on different types of regression analysis and the causal analysis of social data. Prerequisite: SOC 311, or 210 and 315, or 313 and 315.

OC 417 Quantitative Methods in Social Research
3 (either term, 3-0-2). The design, application and evaluation of quantitative reseach strategies. Topics include survey and experimental methods. Prerequisite: SOC 311, or 210 and 315, or 313 and 315.

SOC 418 Qualitative Methods in Social Research
★3 (either term, 3-0-2). Further study of the design and evaluation of qualitative research strategies. Topics include participant observation, ethnomethodology, unobtrusive measures, and document analysis. Prerequisite: SOC 311, or 210 and 315, or 313 and 315.

SOC 419 Comparative and Historical Methods in Sociological Research
★3 (either term, 3-0-2). Further study of the design and evaluation of procedures for comparative analysis of social events and societies. Special focus on evaluating sociological explanations of historical events. Prerequisite: SOC 311, or 210 and 315, or 313 and 315.

SOC 420 Selected Topics in Criminal Justice
★3 (either term, 3-0-0). Topics may vary annually. Consult Department or instructor prior to registration. Prerequisite: SOC 225 and a 400-level Sociology course in Criminology.

SOC 421 Correctional Theory and Research
★3 (either term, 3-0-0). Critical analysis of correctional treatment and rehabilitation efforts in institutional settings and the community. Prerequisite: SOC 225 and a 400-level Sociology course in Criminology.

SOC 423 Crime and Public Policy
★3 (either term, 3-0-0). Social responses to criminal behavior, including general public attitudes and government legislation. Topics include police strategies; sentencing options; prediction research, and social prevention. Prerequisite: SOC 225 and 327.

SOC 424 Social Structure and Crime
★3 (either term, 3-0-0). The effects of urbanization, industrialization, social change, and ecological factors on crime and deviance, with particular emphasis on comparative research. Prerequisite: SOC 225.

SOC 425 Research Problems in Criminology
★3 (either term, 3-0-0). Examination of selected research issues in criminology, such as measurement of crime, research design, causal analysis and data interpretation. Prerequisite: SOC 225.

SOC 426 Agencies of Social Control
★3 (either term, 3-0-0). The study of the way agencies of social control carry out their tasks, including the dynamics within and the interaction among the agencies themselves. Prerequisite: SOC 225.

SOC 427 Juvenile Delinquency
★3 (either term, 3-0-0). Juvenile delinquency and its relation to adult crime; the social processes involved in the genesis and perceptions of styles of delinquency and their relationship to the community, and to various current theories of prevention and control, including the role of institutions and law. Prerequisite: SOC 225.

SOC 428 Types of Crime
★3 (either term, 3-0-0). Analysis of selected types of criminal behavior and typologies; social processes affecting criminal careers. Prerequisite: SOC 225.

SOC 429 Sociology of Law
★3 (either term, 3-0-0). Conceptual and practical points of convergence between legal and social theory; processes by which legal rules are created, maintained and changed; law as an instrument of social control and change. Prerequisite: SOC 225.

INT D 430 Problems and Topics in Middle Eastern Studies
★3 (either term, 3-0-0). (Offered jointly by the Departments of History, Political Science, Sociology and Religious Studies). [Religious Studies]. Prerequisite: Consent of one of the participating Departments.

SOC 434 Contemporary Sociological Theory
★3 (either term, 3-0-0). Current developments in sociological theory: concepts, recent contributions, and theoretical issues and controversies. Prerequisite: SOC 333.

SOC 437 The Sociology of Knowledge
★3 (either term, 3-0-0). Study of the hypothesis that the forms of social life condition knowledge. Analysis of the versions of this thesis offered by such scholars as: Vico, Marx-Engels, Nietzsche, Scheler, Pareto, Durkheim, Mannheim, and more recent writers. Assessment of their proposed solutions to the social limitations imposed on knowing. Prerequisite: One of SOC 231, 332, 333, 367 or equivalent.

SOC 440 Theories in Social Psychology
★3 (either term, 3-0-0). Current theories and related research in social psychology. Prerequisite: SOC 241 or PSYCO 241.

SOC 441 Sociology of Religious Sects
★3 (either term, 3-0-0). Examination of conversion, membership maintenance, member disaffiliation, and resource acquisition strategies among religious sects. Emphasis on Canadian examples. Prerequisite: SOC 224 and SOC 376.

SOC 442 Reinforcement and Social Behavior
★3 (either term, 3-0-1). Operant principles applied to the fundamental processes of social behavior. An examination of critical studies utilizing a reinforcement perspective. Prerequisite: SOC 241 or PSYCO 241.

SOC 443 Ethnomethodology
★3 (either term, 3-0-0). Study of everyday life emphasizing the methods people use to construct a sense of order and meaning. Prerequisite: SOC 241.

SOC 447 Leadership
★3 (either term, 3-0-0). Group interaction and the differentiation of leaders; various social systems. Prerequisite: SOC 241 or 261 or PSYCO 241.

SOC 450 Techniques of Demographic Analysis
★3 (either term, 3-0-0). Conventional techniques of population analysis as applied to census and vital statistics. Prerequisite: One of SOC 251, GEOG 354, or GEOG 355.

SOC 451 Fertility and Family Planning
★3 (either term, 3-0-0). Emphasis on the social, social-psychological, and cultural correlates of fertility; fertility prediction and control. Prerequisite: One of SOC 251, GEOG 354, or GEOG 355.

SOC 452 Mortality and Morbidity
★3 (either term, 3-0-0). Measures and determinants of mortality and morbidity, life tables by causes of death, socio-economic and cultural aspects of mortality in Canada and other developed and developing societies, demographic aspects of aging issues in Canada and other countries. Prerequisite: One of SOC 251, GEOG 354, or GEOG 355.

SOC 453 The Urban Community
★3 (either term, 3-0-0). An examination of the urban community in Canada and other countries from the ecological, social psychological, and social organizational perspectives. Appraisal of community studies. Introduction to community research priorities and methodologies. Prerequisite: SOC 353.

SOC 455 Migration
★3 (either term, 3-0-0). Internal and international migration, and its relationship to resources, economic opportunities, and societal organization in Canada and other countries; concepts, measures and analytical techniques; determinants and consequences of migration; types and models of migration; adjustment of migrants; migration, urban and metropolitan growth. Prerequisite: One of SOC 251, GEOG 354, or GEOG 355.

INT D 456 Rural Social Problems and Public Policy
★3 (either term, 3-0-0). Social problems in Canadian rural life; analysis of policy making processes related to these problems. Prerequisite: Consent of instructor; INT D 356 recommended. (Offered jointly by the Departments of Rural Economy and Sociology.) [Rural Economy]

INT D 458 Socioeconomic Development of Western Canadian Agriculture
★3 (first term, 3-0-0). The economic and social origins of Western Canadian agricultural development. A chronological examination of farm and political organizations and other agrarian social movements influencing the farming sector. The growth of public policy and development of the institutional framework supporting agriculture. Discussion of past and present issues in Western Canadian agricultural development, including such factors as land settlement, transportation and farming support services. Prerequisite: R SOC 355, or one of SOC 100 or 300. (Offered jointly by the Departments of Rural Economy and Sociology.) [Rural Economy]

SOC 459 The Demography of Marriage and Family
★3 (either term, 3-0-0). Review and analysis of the demographic interrelationships of fertility, mortality, and migration with marriage and the family; a cross-cultural review of historical trends, contemporary patterns and future implications; emphasis on statistical measurement, family planning and policy in the Canadian setting. Prerequisite: SOC 271.

SOC 460 Social Organization — Organizational Theory
★3 (either term, 3-0-0). Models of social organization; the units of social structure; the bases of social integration, social control, and social change. Prerequisite: SOC 261.

SOC 461 Sociology of Art
★3 (either term, 3-0-0). A sociological study of art forms including painting, literature, music, and architecture; cross-cultural analysis of the roles of the artist; the relationship of art forms and movements to different social conditions and social change. Prerequisite: One of SOC 100, 202 or 300.

SOC 462 Science and Society
★3 (either term, 3-0-0). Factors in the development of the cognitive and organizational domain of science; interrelations between science and major societal institutions and culture; the future of science and the future of society. Prerequisite: One of SOC 231, 332, 333 or 367.

SOC 463 Sociology of Professions
★3 (either term, 3-0-0). The process of professionalization,

including the development of professional ethics, ideologies, and associations. The role of bureaucracy in professionalization and professional career patterns. Prerequisite: One of SOC 260, 261, or 363.

SOC 464 Selected Topics in the Sociology of Work and Industry
★3 (either term, 3-0-0). Topics may vary annually. Consult Department or instructor prior to registration. Prerequisite: SOC 363.

SOC 465 Sociology of Complex Organizations
★3 (either term, 3-0-0). Approaches to formal organization and management; division of labor and its organizational implications, deviance and conflict within organization, problem solving, and organizational authority. Prerequisite: SOC 261.

SOC 467 Social Class in Modern Society
★3 (either term, 3-0-0). Development of class structures in Western societies; recent theories and empirical findings concerning issues such as social mobility, class boundaries, class consciousness and class conflict. Prerequisite: SOC 260.

SOC 468 Theories of Ethnic and Minority-Group Relations
★3 (either term, 3-0-0). Theoretical analysis of historical, comparative, and social psychological aspects of minority-majority group relationships. Prerequisite: SOC 368.

SOC 469 Sociology of Work and Leisure
★3 (either term, 3-0-0). The nature, meaning, and functions of work in historical and cross-cultural context; sociological analysis of work and leisure; changing uses and meaning of leisure time. Prerequisite: SOC 261 or 363.

SOC 471 Comparative Family Systems
★3 (either term, 3-0-0). An examination of concepts, theories, methodologies and evidence regarding similarities and differences across a range of subcultural and cross-cultural family systems, focussing on contemporary, complex societies. Prerequisite: SOC 271 (or FAM 241 for Home Economics students only.)

SOC 472 Selected Topics in Canadian Society
★3 (either term, 3-0-0). Prerequisite: SOC 260 or 372.

SOC 473 Sociology of Death and Dying
★3 (either term, 3-0-0). Comparative examination of death and dying in socio-cultural contexts, including theoretical and methodological issues. Prerequisite: SOC 241, or 261, or 375.

INT D 475 The Family in Socio-Historical Perspective
★3 (either term, 3-0-0). Comparative study of the family in socio-historical context with emphasis on North American and European family systems. Critical examination of contemporary sociological family theory in relation to historical data. Issues in socio-historical research methods of family study. Prerequisite: SOC 271 or equivalent. (Offered jointly by the Departments of History and Sociology). [Sociology].

SOC 475 Advanced Sociology of Aging
★3 (either term, 3-0-0). In-depth examination of selected theoretical approaches, methodological issues, and topics of substantive concern in the study of aging and the aged. Prerequisite: SOC 375.

SOC 476 Religion and Societies
★3 (either term, 3-0-0). A comparative survey of the major world religions in interaction with the socio-economic and political structures of various societies. Prerequisite: SOC 376.

SOC 477 Social Psychology of Marriage
★3 (either term, 3-0-0). Examines research on interaction in marriage relationships including effects of gender, work roles, and intimacy over the life span. Research project on a relevant, current dimension of the marital relationship required. Prerequisite: Two of SOC 241, 271, or 373 (or FAM 241 and 346 for Home Economics students only).

SOC 478 Social Psychology of Family Relationships
★3 (either term, 3-0-0). Current research on parent-child interaction in families of differing structures and processes. Focus is on creative, ambivalent and destructive family relationships. Resource project required on a current family issue. Prerequisite: Two of SOC 241, 271, or 374 (or FAM 241 and 343 for Home Economics students only).

SOC 479 Selected Topics in the Family
★3 (either term, 3-0-0). Topics may vary annually. Consult Department or instructor prior to registration. Prerequisite: SOC 271 (or FAM 241 for Home Economics students only).

SOC 480 Theories of Social Change
★3 (either term, 3-0-0). Significance of change in social and cultural systems; problems of induced change in selected cultures. Prerequisite: One of SOC 231, 260, 261, 332, 333.

SOC 483 Social Psychology of Health and Illness
★3 (either term, 3-0-0). Social psychological factors in health and illness and medical care, including attitudes, beliefs, roles, socialization, and interpersonal processes. Prerequisite: SOC 382.

SOC 484 Social Organization of Health Care
★3 (either term, 3-0-0). The social structure and dynamics of health care organization, including hospitals, professional-bureaucratic relations in health care organizations, professional socialization, and governmental functions. Prerequisite: SOC 382.

SOC 485 Social Epidemiology
★3 (either term, 3-0-0). The social distribution and social determinants of health, illness, disability and death with a focus on sociological variables including age, gender, occupation, social class, ethnicity, religion, attitudes and lifestyles. Prerequisite: SOC 251 or 382. Note: Not to be taken by students with credit in SOC 456.

SOC 486 Sociology of Mental Illness
★3 (either term, 3-0-0). Sociological aspects of mental health and illness. Includes historical perspectives, diagnostic issues, and perspectives on causation and treatment. Prerequisite: SOC 224 or 382. Note: Not to be taken by students with credit in SOC 474.

SOC 490 Sociology and Public Policy
★3 (either term, 3-0-0). Past and present relationship among sociology, social research and social needs, including the impact of sociological research on public policy formation, program development and implementation and program assessment. Prerequisite: Twelve units of course weight in Sociology.

SOC 491 Gender Stratification and Differentiation
★3 (either term, 3-0-0). Advanced study of theoretical and methodological issues in the social stratification of gender roles and statuses. Prerequisite: SOC 301.

SOC 499 Advanced Field Placement in Criminology
★6 (0-16s-0). Supervised work experience and seminar sessions. Prerequisite: SOC 399. Note: Restricted to BA (Criminology) students.

Note: For graduate courses in Sociology, refer to §204.78.4 of this Calendar.

44.42.3 Service Course

SOC 366 People in Industry
★3 (either term, 3-0-0). Introduction to the sociological analysis of the attitudes and behavior of employees in work organizations, with emphasis on the contemporary Canadian situation. Note: Restricted to Engineering students only.

44.43 Spanish

Department of Romance Languages

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
SPAN 300	SPAN 250	SPAN 307	SPAN 252
SPAN 301	SPAN 251	SPAN 308	SPAN 253

44.43.1 Junior Courses

SPAN 100 Beginners' Spanish
★6 (5-0-0). A basic course, intended for students with no previous knowledge of the language, emphasizing spoken and written Spanish. Not open to students with credit in matriculation-level Spanish.

44.43.2 Senior and Advanced Courses

SPAN 201 Practical Work in Oral Spanish for Second-Year Honors Students
★2 (1-0-0).

SPAN 250 Second-Year Spanish
★6 (3-0-1). Intensive grammar, composition, and conversation. Prerequisite: SPAN 100 or equivalent.

SPAN 251 Spanish Grammar
★6 (3-0-0). A course for students proficient in spoken Spanish who need to improve basic writing skills and knowledge of grammar. Prerequisite: Consent of Department.

SPAN 252 Conversation and Composition I
★3 (either term, 3-0-0). Designed to enrich vocabulary, increase oral proficiency, and develop skills for writing in Spanish. Prerequisite or corequisite: SPAN 250.

SPAN 253 Conversation and Composition II
★3 (either term, 3-0-0). A continuation of SPAN 252. Prerequisite or corequisite: SPAN 250.

SPAN 302 Practical Work in Oral Spanish for Third-Year Honors Students
★2 (1-0-0).

SPAN 309 Aspects of Spanish Civilization and Culture
★3 (either term, 3-0-0). Spanish civilization and culture studied through consideration of the principal historical periods and literary and cultural movements. The course is designed to provide an appropriate background for subsequent study of literature while improving the student's command of Spanish. Prerequisite: SPAN 250 or 251 or 252 or 253.

SPAN 310 Aspects of Spanish American Civilization and Culture
★3 (either term, 3-0-0). Spanish American civilization and culture studied through consideration of the principal historical periods and literary and cultural movements. The course is designed to provide an appropriate background for subsequent study of literature while improving the student's command of Spanish. Prerequisite: SPAN 250 or 251 or 252 or 253.

SPAN 312 Introduction to the Hispanic Literary Tradition
★3 (either term, 3-0-0). A general introduction to important aspects of the Hispanic literary tradition such as its history, influences, themes and major movements. Prerequisite: SPAN 250 or 251 or 252 or 253.

SPAN 313 Introduction to the Study of Literary Criticism in Spanish
★3 (either term, 3-0-0). A general introduction to literary criticism in Spanish and different approaches to reading and interpretation through study of select texts. Prerequisite: SPAN 250 or 251 or 252 or 253.

SPAN 315 Spanish Nineteenth-Century Peninsular Literature
★3 (either term, 3-0-0). Literature of the nineteenth century studied through a number of selected works. Prerequisite: SPAN 309 or 310.

SPAN 320 Spanish Twentieth-Century Peninsular Literature
★3 (either term, 3-0-0). Literature of the twentieth century studied through a number of selected works. Prerequisite: SPAN 309 or 310.

SPAN 350 Spanish-American Literature of the Colonial Period and the Nineteenth Century
★3 (either term, 3-0-0). A survey of the development of Spanish-American literature during the Colonial and National periods to the end of the nineteenth century. Prerequisite: SPAN 309 or 310.

SPAN 355 Spanish-American Literature of the Twentieth Century
★3 (either term, 3-0-0). A survey of the development of Spanish-American literature in the twentieth century. Prerequisite: SPAN 309 or 310.

SPAN 360 Hispanic Literature in English Translation
★3 (either term, 3-0-0). Study of several works of Spanish and Spanish American literatures. Note: Not acceptable to meet concentration requirements in Spanish. This course will not fulfill the Language other than English requirement of the BA degree. Language of instruction is English.

SPAN 403 Practical Work in Oral Spanish for Fourth-Year Honors Students
★2 (1-0-0).

SPAN 405 Exercises in Translation: Spanish into English
★3 (either term, 3-0-0). Prerequisite: SPAN 250.

SPAN 406 Exercises in Translation: English into Spanish
★3 (either term, 3-0-0). Prerequisite: SPAN 250

SPAN 407 Advanced Grammar and Composition I
★3 (either term, 3-0-0). Prerequisite: SPAN 250.

SPAN 408 Advanced Grammar and Composition II
★3 (either term, 3-0-0). Prerequisite: SPAN 250.

SPAN 409 Topics in Spanish Language
★3 (either term, 3-0-0). Prerequisite: SPAN 250.

SPAN 410 Spanish Medieval Literature
★3 (either term, 3-0-0). Prerequisite: SPAN 315 or 320 or 350 or 355.

SPAN 415 Prose Writers of the Golden Age
★3 (either term, 3-0-0). Prerequisite: SPAN 315, or 320, or 350, or 355.

SPAN 420 Poetry of the Golden Age
★3 (either term, 3-0-0). Prerequisite: SPAN 315, or 320, or 350, or 355.

SPAN 425 Theatre of the Golden Age
★3 (either term, 3-0-0). Prerequisite: SPAN 315, or 320, or 350, or 355.

AN 440 Topics in Spanish Peninsular Literature
(either term, 3-0-0). Prerequisite: SPAN 315 or 320 350 or 355.

AN 450 Topics in Spanish-American Literature
(either term, 3-0-0). Prerequisite: SPAN 315 or 320 350 or 355.

AN 499 Directed Reading
(either term, 3-0-0) or ★6 (3-0-0). A course designed meet the needs of individual students in relation to ne topic of study not covered in the other available urses at the same level. Prerequisite: Consent of partment.

AN 500 Reading Course
(3-0-0). This course is for graduate students who sh to satisfy the language requirements of their de-rtment. An intensive study of essential grammar, ading of graded texts, and translation of texts from student's own field. Note: Not open to under-aduates.

AN 501 Teaching Strategies for the Instruction of anish
) (first term, 1-1s-0). Note: This course is open only to aduate Assistants in Spanish.

AN 520 Honors Tutorial
3 (3-0-0). This course is for students in the final year of honors program in Spanish and Spanish American udies. It will consist of individual study of a special pic, pursued under the direction of a member of staff d leading to the writing of an honors essay. Note: A ngle term course offered over the full session.

AN 525 Approaches to Literary Criticism
3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: onsent of Department.

AN 530 Topics in Medieval and Renaissance terature
3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: onsent of Department.

AN 550 Topics in Spanish Literature of the olden Age
3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: onsent of Department.

AN 570 Topics in Spanish Literature of the ineteenth Century
3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: onsent of Department.

AN 580 Topics in Spanish Literature of the wentieth Century
3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: onsent of Department.

AN 585 Topics in Spanish American Literature of ie Twentieth Century
3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: onsent of Department.

AN 599 Conference Course
3 (either term, 3-0-0) or ★6 (3-0-0). Study of a topic ot dealt with in other Honors or graduate courses. esigned to meet the needs of individual students. rerequisite: Consent of Department.

Note: For graduate courses in Spanish at the 600-vel, refer to §204.74.4 of this Calendar.

44.44 Swedish

Department of Germanic Languages

he following table lists renumbered courses effective 990-91:

Old	New
CAND 101	SWED 100
CAND 301	SWED 200

44.44.1 Junior Courses

SWED 100 Elementary Swedish
★6 (3-0-2). Designed to give basic practical skill in veryday spoken and written Swedish. The oral ap-proach, using the laboratory, is followed.

44.44.2 Senior Courses

SWED 200 Second-Year Swedish
★6 (3-0-1). Reading and study of selected texts in Swedish literature and culture. Composition and conver-sation. Prerequisite: SWED 100 or consent of Department.

44.45 Ukrainian

Department of Slavic and East European Studies

The following table lists renumbered courses effective 1990-91:

Old	New
UKR 200	UKR 150

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
UKR 303	UKR 201	UKR 311	UKR 211
UKR 304	UKR 202	UKR 312	UKR 212
UKR 305	UKR 205	UKR 315	UKR 215
UKR 306	UKR 206	UKR 316	UKR 216
UKR 307	UKR 207		

44.45.1 Junior Courses

UKR 100 Beginners' Ukrainian
★6 (3-0-2). Essentials of grammar, reading, and pronunciation. Designed to give a working knowledge of Ukrainian. Note: Not open to students with credit in Ukrainian 30.

UKR 150 First-Year University Ukrainian
★6 (3-0-1). An intensive course in grammar, reading and conversation. Readings from modern Ukrainian literature, elementary composition and laboratory work. Designed for students having some previous knowledge of Ukrainian. Prerequisite: Ukrainian 30 or the consent of Department. Note: Not open to students with credit in UKR 100, UKR 303 or UKR 304. All students are required to consult with the Department prior to registering for this course.

44.45.2 Senior Courses

UKR 201 Second Year Ukrainian I
★3 (first term, 3-0-0). Ukrainian grammar, composition, and oral practice based on selected texts of Ukrainian classical and contemporary literature. Prerequisite: UKR 100, or 107, or consent of Department.

UKR 202 Second-Year Ukrainian II
★3 (second term, 3-0-0). This course is a continuation of UKR 303, with greater emphasis on reading and composition. Prerequisite: UKR 201 or consent of Department.

UKR 205 Second Year Practical Study
★3 (0-0-2). Development of oral skills. Prerequisite or corequisite: UKR 201 and 202. Recommended for students taking UKR 201 and 202.

UKR 206 Intensive Second-Year Ukrainian I
★3 (15-0-5). An 'immersion' course in second-year Ukrainian, with emphasis on conversational skills. Prerequisite: UKR 100, or 107, or consent of Department. Note: This course is given during the Intersession only.

UKR 207 Intensive Second-Year Ukrainian II
★3 (15-0-5). The continuation of UKR 206. Prerequisite: UKR 206 or consent of Department. Note: This course is given during the Intersession only.

UKR 215 Assisted Readings I
★3 (first term, 3-0-0). Introduction to the study of Ukrainian literary and folkloric texts in the original. Prerequisite or corequisite: UKR 150, or 201, or consent of Department.

UKR 216 Assisted Readings II
★3 (second term, 3-0-0). Continuation of the study of Ukrainian literary and folkloric texts in the original. Prerequisite or corequisite: UKR 150, or 202, or 215, or consent of Department.

UKR 326 Ukrainian Culture
★6 (3-0-0). A survey of Ukrainian culture and civilization stressing major developments in literature and fine arts. Note: Not accepted to meet concentration requirements for the BA (General) in Ukrainian. This course will not fulfill the Language other than English requirement of the BA degree.

UKR 327 Early Ukrainian-Canadian Culture
★3 (either term, 3-0-0). A survey of the cultural heritage of Ukrainian immigrants who settled in Western Canada in the late nineteenth and early twentieth centuries. Note: This course is given in the Intersession only. Not accepted to meet concentration requirements for the BA (General) in Ukrainian. Language of instruction is English.

UKR 401 Advanced Ukrainian I
★3 (either term, 3-0-0). Review of difficult grammatical points with special emphasis on syntax and stylistics; reading of selected texts from Ukrainian classical and contemporary literature. Prerequisite: UKR 150, or 202, or 207, or consent of Department. Note: Formerly UKR 361. Not open to students with credit in UKR 361.

UKR 402 Advanced Ukrainian II
★3 (either term, 3-0-0). A continuation of UKR 401 with emphasis on composition and analysis of literary texts. Prerequisite: UKR 401 or consent of Department. Formerly UKR 362. Not open to students with credit in UKR 362.

UKR 405 Third-Year Practical Study
★3 (0-0-2). Development of oral skills. Recommended for students taking UKR 401 and 402. Prerequisite or corequisite: UKR 401 and 402.

UKR 411 Ukrainian Literature to 1917
★3 (either term, 3-0-0). A survey course covering the main authors and literary trends from the beginnings of Ukrainian literature to the revolution. Prerequisite: UKR 216, or consent of Department.

UKR 412 Ukrainian Literature from 1917 to the Present
★3 (either term, 3-0-0). A continuation of UKR 411. This course will cover Ukrainian literature after 1917, with emphasis the early Soviet period. Prerequisite: UKR 411 or consent of Department.

UKR 422 Introduction to Ukrainian Folklore I
★3 (either term, 3-0-0). A survey of the folk song genres, with analysis of texts in the original. Prerequisite: UKR 216, or consent of Department.

UKR 423 Introduction to Ukrainian Folklore II
★3 (either term, 3-0-0). A continuation of UKR 422. This course will also deal with prose and minor verbal genres. Prerequisite: UKR 422.

UKR 425 Ukrainian Rites of Passage
★3 (either term, 3-0-0). Examines rites of passage for birth, marriage and death. Involves field work. Prerequisite: UKR 216 and ANTHR 307 or consent of Department. With departmental consent, the ANTHR 307 prerequisite can be waived.

UKR 426 Ukrainian Calendar Customs
★3 (either term, 3-0-0). Examines seasonal folk customs, including winter, spring, summer and autumn rites. Involves field work. Prerequisite: UKR 216 and ANTHR 307 or consent of Department. With departmental consent, the ANTHR 307 prerequisite can be waived.

UKR 433 Ukrainian Literature and Film
★3 (either term, 3-0-0). The analysis of films accompanied by a close study of the literary works that inspired them. Prerequisite: UKR 150 or 202 or consent of Department. Note: Not to be taken by students with credit in UKR 322.

UKR 441 English-Ukrainian/Ukrainian-English Translation I
★3 (either term, 3-0-0). Exercises in translation with emphasis on non-literary texts. Prerequisite: UKR 150, or 202, or consent of Department.

UKR 442 English-Ukrainian/Ukrainian-English Translation II
★3 (either term, 3-0-0). Exercises in translation with emphasis on literary texts. Prerequisite: UKR 441, or consent of Department.

UKR 451 Cultural History of the Ukrainian Language
★3 (either term, 3-0-0). The growth and development of Ukrainian from its origins to the present day. Prerequisite: UKR 150, or 202, or 207, or 212, or consent of the Deoartment.

UKR 453 Ukrainian Phonetics
★3 (either term, 3-0-0). Scientific study of the Ukrainian sound system combined with practice in phonetic discrimination and transcription. Prerequisite: UKR 150, or 202, or 207, or 212 or consent of Department.

UKR 454 Ukrainian Morphology and Syntax
★3 (either term, 3-0-0). Study of the morphological and syntactic systems of Ukrainian. Prerequisite: UKR 453 or consent of Department.

UKR 455 Contrastive Linguistics: Ukrainian-English
★3 (either term, 3-0-0). Contrastive study of the structures of Ukrainian and English with emphasis on problems of language learning. Prerequisite: UKR 150, or 202, or 207, or 212, or 453 or consent of Department.

UKR 471 Ukrainian Romanticism
★3 (either term, 3-0-0). An introduction to the major themes and genres of Ukrainian Romanticism against the background of early 19th century interest in folklore and history. Readings include Kotliarevs'kyi, Borovykovs'kyi, Metlyns'kyi, Kostomarov, with special emphasis on Shevchenko. Prerequisite: UKR 216 or consent of Department.

UKR 479 Honors Thesis
★3 (either term, 3-0-0). Directed Honors thesis research. Note: Required of all BA (Honors) students majoring in Ukrainian who are in their final year of study.

UKR 498 Conference Course (Linguistics)
★3 (either term, 3-0-0). Students as well as staff may initiate proposals in any given year for the content of this

course. Please consult the Department Chair for the procedure for student-initiated proposals.

UKR 499 Conference Course (Literature/Folklore)
★3 (either term, 3-0-0) or ★6 (3-0-0). Students as well as staff may initiate proposals in any given year for the content of this course. Please consult the Department Chair for the procedure for student-initiated proposals.

UKR 503 Ukrainian Stylistics
★3 (either term, 3-0-0).

UKR 504 Problems in English-Ukrainian Translation
★3 (either term, 3-0-0).

UKR 511 The Structure of Ukrainian
★3 (either term, 3-0-0).

UKR 516 Medieval Ukrainian Literature
★3 (either term, 3-0-0). Ukrainian literature from the fourteenth through the seventeenth centuries.

UKR 517 Ukrainian Dialectology
★3 (either term, 3-0-0).

UKR 531 History of Ukrainian Folklore Studies
★3 (either term, 3-0-0).

UKR 532 Ukrainian Folklore in Canada
★3 (either term, 3-0-0).

44.45.3 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department and/or the University timetable.

UKR 106 Intensive Beginners' Ukrainian I
★3 (15-0-5). An 'immersion' course designed to give a working knowledge of Ukrainian, with emphasis on conversational skills. Note: This course is given during the Intersession only.

UKR 107 Intensive Beginners' Ukrainian II
★3 (15-0-5). The continuation of UKR 106. Prerequisite: UKR 106 or consent of Department. Note: This course is given during the Intersession only.

UKR 211 Standard Scholarly and Technical Ukrainian I
★3 (first term, 3-0-0). An introduction to technical Ukrainian writing stressing idiomatic usage in a variety of areas outside of belles-lettres proper (e.g. anthropology, history, geography). Prerequisite: UKR 150, or 202, or consent of Department.

UKR 212 Standard Scholarly and Technical Ukrainian II
★3 (second term, 3-0-0). This course is designed as a continuation of UKR 211; the student will be introduced to other areas of Ukrainian writing (e.g. art, music, physical education). Prerequisite: UKR 211 or consent of Department.

UKR 320 Masterpieces of Ukrainian Literature in Translation
★3 (either term, 3-0-0). A survey of the outstanding authors and literary trends in nineteenth and twentieth century Ukrainian literature against their social and historical backgrounds. This course will not fulfill the Language other than English requirement of the BA degree.

UKR 465 Taras Shevchenko
★3 (either term, 3-0-0). Prerequisite: UKR 212, or 207, or 216, or consent of Department.

UKR 466 Lesia Ukrainka
★3 (either term, 3-0-0). Prerequisite: UKR 216, or consent of Department.

UKR 467 Ivan Franko
★3 (either term, 3-0-0). Prerequisite: UKR 216, or consent of Department.

UKR 481 Soviet Ukrainian Literature
★3 (either term, 3-0-0). Detailed study of the major Soviet Ukrainian writers with emphasis on the 1920s and the post-Stalinist period. Prerequisite: UKR 216, or consent of Department.

UKR 482 Ukrainian Emigré Literature
★3 (either term, 3-0-0). Detailed study of Ukrainian emigré writers. Prerequisite: UKR 216, or consent of Department.

44.46 Women's Studies

The following table lists renumbered courses effective 1990-91:

Old	New
W ST 300	W ST 200

44.46.1 Senior Courses

W ST 200 Introduction to Women's Studies
★6 (3-0-0). A survey and analysis of issues concerning women's lives, both historically and in the present; an account of the development of feminist theories and critiques, and an assessment of the contribution this new scholarship has made in transforming received knowledge in a variety of disciplines. Not available to first-year students.

W ST 301 History of Feminist Thought
★3 (either term, 3-0-0). The development of feminist thought and theories from the eighteenth to the twentieth century, including the contributions of, and tensions between various feminisms. Prerequisite: W ST 200 or consent of the Program.

W ST 302 Feminist Research and Methodologies
★3 (either term, 3-0-0). Whether there can be and is a distinctive feminist perspective on research in various disciplines; the ways in which taking a feminist perspective, or taking account of women in research, affects the research process. Prerequisite: W ST 200 or consent of the Program.

W ST 310 Women in Development
★3 (either term, 3-0-0). This course deals with development issues, such as work, health, environment and human rights among women in developing countries. Prerequisite: W ST 200 or consent of the Program.

W ST 320 Popular Culture/Feminist Culture
★3 (either term, 3-0-0). This course will examine several of the following cultural forms in relation to representations of women as producers and consumers of popular culture: advertising, popular music, television narrative forms, romance novels, video games, popular film, fashion, women's magazines, sports and leisure, domestic culture (e.g. home-making, gossip). Prerequisite: W ST 200 or consent of the Program.

W ST 330 Feminist Perspectives on Women, Counselling and Psychoanalysis
★3 (either term, 3-0-0). This course studies women's relationship to counselling and psychoanalysis from interdisciplinary and feminist points of view. Gender, mental illness and 'madness' will be examined from within historical, social and theoretical frameworks. Prerequisite: W ST 200 or consent of the Program.

W ST 400 Interdisciplinary Women's Studies Seminar
★3 (either term, 0-3s-0). Prerequisite: W ST 200 or consent of the Program.

W ST 401 Directed Readings in Women's Studies
★3 (either term, 0-3s-0). Prerequisite: W ST 200 or consent of the Program.

W ST 402 Senior Project in Women's Studies
★6 (3-0-0). A senior capstone course. Prerequisite: W ST 200, W ST 302 and consent of the Program.

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Business

Faculty of Business

1 Introductory

1.1 Members of the Faculty

1.1.1 Officers of the Faculty

an
L Malouin, PhD

sociate Dean (Planning and Administration)
Brown, PhD

sociate Dean (Programs, BCom,MBA/MPM)
Daniel, PhD

rector, PhD Program
M Korkie, PhD

iministrative Officer
Gilsdorf, PhD

culty Service Officer
Johnson, PhD

1.1.2 Accounting

ofessor and Chair
Newton, PhD

ofessors
Cooper, PhD
A Denham, PhD, FCA
Gibbins, PhD, FCA (Winspear Foundation Distinguished Chair in Professional Accounting and Director, The Centre for the Advancement of Professional Accounting Education)
Jobson, PhD
W Lemke, MComm, FASA, CPA, AAUQ

sociate Professors
A Kennedy, PhD, CA
Tiessen, PhD

sistant Professors
Dhaliwal, PhD
Jamal, PhD
Lim, MSc
R Nault, PhD
Scott, PhD
Sutley, PhD
Xie, PhD

cturers
Berman, MBA, MSC
Budd, BCom, CA
Chandler, MBA

1.1.3 Finance and Management Science

sociate Professor and Chair
A Mumey, PhD (Director, Institute for Financial Research)

ofessors
Barone-Adesi, PhD
E Daniel, PhD (Associate Dean, Programs)
G Hoskins, PhD
TL Janssen, PhD
D Jobson, PhD
M Korkie, PhD (Director, PhD Program)
L Malouin, PhD (Dean of the Faculty)
O Nakamura, PhD
M Nakamura, PhD
P Talwar, PhD
R Winters, PhD

sociate Professors
Beveridge, PhD
Erkut, PhD

sistant Professors
Kim, PhD
Laughton, PhD
Morck, PhD
Travis, PhD

cturers
Mozejko, MBA
Wolsey, MBA

1.1.4 Marketing and Economic Analysis

Professor and Chair
GB Reschenthaler, PhD

Professors
RL Beck, PhD, CPA
EJ Chambers, PhD
CG Hoskins, PhD
J Louviere, PhD
SM McFadyen, PhD, CA
KR Mirus, PhD
WA Preshing, PhD
RS Smith, PhD
AA Warrack, PhD
J Wiley, PhD

Associate Professors
MJ Dunn, PhD
T Elrod, PhD
A Finn, PhD
IF Ivankovich, MBA, LLB
P Raworth, LLM
SP Singh, PhD
HC Young, PhD

Assistant Professors
M Bhargava, MBA
C Carlson, PhD
R Johnson, PhD
P Larson, PhD

Lecturers
R Bradford, MBA, LLB
E Geddes, LLM

1.1.5 Organizational Analysis

Professor and Chair
R Greenwood, PhD

Professors
JL Brown, PhD (Associate Dean, Planning and Administration)
CR Hinings, BA (Director, Human Resources Management Centre, Thorton A Graham Chair in Business)
CA Lee, PhD
ANB Nedd, PhD
RV Rasmussen, PhD
RE Schneck, PhD
CB Williams, PhD

Associate Professors
BG Bemmels, PhD
DM Cullen, PhD
R Field, PhD
EG Fisher, PhD
RP Gephart Jr, PhD
AI Murray, PhD
B Townley, PhD
Y Reschef, PhD

Assistant Professors
K Stratton-Devine, PhD
J Usher, MBA
R Wolfe, PhD

Visiting Associate Professor
L Steier, PhD

Lecturers
R Bradford, LLB, MBA
S Scott-Hallam, MBA

1.1.6 Professors Emeriti

D Goodale, Phd, CA, FCMA
LC Leitch, LLB, MBA
ES Shihadeh, PhD
DG Tyndall, MA PhD
FG Winspear, OC, FCA, RIA, LLD, FRSA

1.1.7 Additional Members of Faculty Council

President and Vice-Chancellor
P Davenport, PhD

Registrar of the University
BJ Silzer, MEd

Professors
E Einsiedel Jr, PhD (Faculty of Extension)
D Tupper, PhD (Department of Political Science)
SD Ubelacker, PhD (Faculty of Education)

Associate Professor
GC Cree, PhD (Department of Mathematics)

Assistant Professor
L Reif, LLM (Faculty of Law)

Winspear Library
K West

Representative of the Institute of Chartered Accountants of Alberta
D Easton

Student Representatives
2 MBA Students
1 MPM Student
5 Undergraduate Students

Note: §51.2 Reserved

51.3 General Information

The Faculty of Business offers the degrees of Bachelor of Commerce, Master of Business Administration, Master of Public Management, and Doctor of Philosophy in Business Management.

51.3.1 PhD Program in Business Management

The doctoral program in Business Management is designed to prepare students for a research career in academia, business, or government. The program offers major areas of study in accounting, finance, industrial relations, marketing, and organizational analysis. The program seeks prospective students with an excellent schoiastic record and a strong interest in research related to their chosen field of business studies. Applicants must hold a minimum of a bachelor's degree from any undergraduate program in order to be considered for admission.

For further information, contact the Director of the PhD Program, Faculty of Business and consult §204.11.6 of this Calendar.

51.3.2 MBA Program

The degree of Master of Business Administration is designed for students preparing for a career in general management. The program accepts students from a wide variety of undergraduate disciplines and strives to provide them with the analytical foundations necessary to be effective managers of modern enterprises. Through lectures, case studies, and group projects, students learn to generate courses of action, make decisions, implement policies, and communicate information.

For further information contact the Associate Dean, MBA/MPM Programs, Faculty of Business, and consult §204.11.2 of this Calendar.

51.3.3 MPM Program

The degree of Master of Public Management will prepare students for eventual senior management positions in municipal, provincial, and federal governments, and for other public enterprises in Alberta, Canada, and abroad. It will focus on both management theory and skills, on public issues, and on policy formulation and implementation.

For further information, contact the Associate Dean, MBA/MPM Programs, Faculty of Business and consult §204.11.3 of this Calendar.

51.3.4 BCom Program

The Bachelor of Commerce program seeks to provide the student with a broad background in the different areas of business as well as in related fields in the humanities and social sciences. The business world and its environment have changed enormously in the last twenty years and will change at an even faster pace in the next twenty. In this trend, questions about the environment will become increasingly important. No

school of business can possibly teach the solution to problems which will arise several years from now. A school should, therefore, seek to provide a basis for effective self-learning through actual experience by teaching the broad underlying fields of knowledge which are basic to business. The emphasis is upon the development of a comprehensive analytical framework within which various organizational problems can be analyzed.

51.3.5 BCom Program After Approved Degree

Requirements for a BCom degree after another approved degree will depend, in part, on the previous degree held.

Individuals who have been admitted to the Faculty and have an approved degree conferred in the last 8 years shall be required to satisfy the requirements of the Business Core plus 3 senior business electives. This is subject to completing a minimum of 45 units of course weight of coursework and not more than 72 units of course weight of coursework in the Faculty of Business.

For further information, contact the Undergraduate Student Records Office of the Faculty of Business.

51.3.6 Special Students Studying to Satisfy Requirements of Professional Accounting Organizations

The policy of the Faculty of Business with respect to special students taking courses to satisfy the requirements of professional accounting organizations such as the Institute of Chartered Accountants, the Society of Management Accountants, and the Certified General Accountants, is as follows:

(1) Special accounting students must meet the same deadlines for application as any other student. Admission to the First and Second terms are made during the First term only. Students who wish to be admitted to Intersessions must meet the same academic criteria as outlined in item numbers 2 and 3 below.

(2) Students who hold a Bachelor of Commerce Degree from the University of Alberta, which was awarded after 1979, will be admitted to take the courses which are required in order to meet professional accounting requirements. Students who received the Bachelor of Commerce Degree from the University of Alberta before 1979 must have graduated with a grade point average of at least 6.6 during their final year of study in order to qualify as special accounting students.

(3) All other applicants who hold an approved degree must have obtained a grade point average of at least 6.6 during their final year of study in order to be admitted. Students who fall into this category will be allowed to take a maximum of 24 units of course weight in order to satisfy professional accounting requirements. In all cases, course prerequisites must be satisfied. If the total number of courses required exceeds 24 units of course weight, including prerequisites, then the applicant will be considered for the BCom Program for applicants holding an approved degree.

(4) If you wish further information about the professional accounting organizations, please write to:

Institute of Chartered Accountants of Alberta (CA)
901, Toronto Dominion Tower
Edmonton Centre
Edmonton, Alberta T5J 2Z1
Telephone: 424-7391

The Society of Management Accountants of Alberta (CMA)
300 - 530 Eighth Avenue, SW
Calgary, Alberta T2P 3S8
Telephone: 1-800-332-1106

The Certified General Accountants Association of Alberta (CGA)
580, 10665 Jasper Avenue
Edmonton, Alberta T5J 3S9
Telephone: 428-0689

51.3.7 Career Opportunities

The opportunities for Bachelor of Commerce graduates are many and varied. They range anywhere from positions in government (Federal, Provincial, and Municipal) and large enterprises, to partner or owner of small firms. The types of positions the graduates have within these organizations range from systems analysts to financial analysts, from sales managers to accountants.

Opportunities in any given year fluctuate with the general level of economic activity in the country. Although it is generally difficult to forecast the job market several years ahead, the demand for graduates is expected to grow or at least remain constant in the next few years; the job market outlook is therefore generally favourable.

Additional information about employment opportunities can be obtained from the Faculty of Business, Office of Placement Services, 2-21 Business Building.

Information regarding the various areas of specialization within the field of business administration is contained in §53.2.

51.3.8 Student Organizations Within the Faculty

Undergraduate Associations

BSA (Business Students' Association)
Office: BUS 2-10

The largest undergraduate student organization within the Faculty. Undergraduates registered in the Faculty are automatically members of the Association and are entitled to run in BSA elections for both executive and class representative positions. These representatives sit on BSA Council which manages the affairs of BSA. Student representatives are also elected to serve on Faculty Committees and the Edmonton Chamber of Commerce. This provides a liaison between students, Faculty, and the business community.

The Association publishes a handbook called the "Porthole" and a monthly newsletter called the "BSA Flasher"; it also organizes annual functions such as the Bavarianfest, Commerce Week, and the graduation banquet and dance.

AIESEC (International Association of Students of Economics and Commerce)
Office: BUS 2-12

A French acronym for "International Association of Students of Economics and Commerce", AIESEC offers an international job-exchange program in which students from foreign AIESEC locals have found jobs here in Canada, and Canadian AIESEC members have found jobs in foreign countries. The jobs last from six weeks to 18 months, and are memorable experiences. AIESEC activities also include Career Day, Contact Talks with local business people, as well as numerous other events.

Accounting Club
Office: BUS 2-08

The Accounting Club provides the opportunity for students to find out more about the world of accounting and what it has to offer through such activities as Hospitality Night, CA Student Rap Session, CMA Rap Session, CGA Day, as well as speakers and guest lectures.

Marketing Club
Office: BUS 2-02

For students interested in marketing, this club offers a wonderful opportunity to find out more about the field of marketing. As well as offering information on jobs currently available in the field, the marketing club aids students in gaining useful marketing experience.

RMBS (Rocky Mountain Business Seminar)
Office: BUS 2-06

RMBS is a three-day seminar that occurs every February during the first half of Reading Week. Approximately 100 commerce students arrive at a hotel in the Rockies to attend seminars given by prominent Canadian business people during the day. Social activities are planned for the evenings. Organized by a group of Commerce students, RMBS is another memorable experience that should not be missed.

Investors' Club
Office: BUS B-04

If you have always wanted to invest in the stock market but never had the funds then this is the club for you. The Investors' Club is designed to familiarize its members with the importance of financial planning and to allow them to gain an understanding of the operation of investment markets. This is accomplished through interactive seminars, guest speakers, and our computerized mock market simulation.

Entrepreneurs Club
Office: BUS 3-02

This is a club for students, regardless of the faculty in which they are registered, who are interested in entrepreneurial pursuits. The Club acts as an organization and network through which its members can meet to exchange ideas, share experiences, and learn new skills that will help them succeed in their goals. Numerous guest speakers and social events will be featured throughout the year.

The MBA Association and the MPM Society

The MBA Association and the MPM Society are the official bodies representing the masters' degree students in the Faculty of Business. They are non-profit servic organizations solely administered by the students of th two respective programs. The purposes of these organ zations are: to promote fellowship between studen through their activities; to promote cooperation an rapport between the students and the academic an administrative staff; to represent the students on a organizations and bodies on which the Association an or the Society has representation; to promote conta between graduate students and members of the busine community; and extend the academic and non-academi interests of the members through forums, special lecture and discussion groups; and to advise, counsel, and a on student problems which cannot be handled effective through Faculty channels.

51.3.9 The Banff School of Advanced Management

The Faculty of Business and the University o Alberta proudly continue sponsorship of the executiv development program at the Banff School of Advance Management (BSAM). Established in 1952 by the Un versities of Alberta, British Columbia, Manitoba, an Saskatchewan, BSAM has gained for itself an enviabl reputation in the Canadian private and public sectors Over 3800 executives from some 800 organization have participated in the program. The splendid residenc and conference facilities of The Banff Centre, plus a outstanding teaching staff, have combined to mak BSAM one of the leading executive development institution on the continent.

For further information concerning the BSAM progra please contact directly:

President
The Banff School of Advanced Management
P.O. Box 1020
Banff, Alberta T0L 0C0
Telephone: 403-762-6126/7

52 Faculty Regulations

52.1 Admission

52.1.1 Graduate Study

For information regarding Graduate Study please consult the Faculty of Graduate Studies and Research section of the University Calendar.

52.1.2 Undergraduate Study

High School Applicants

Admission requirements are set out in §13 of this Calendar.

Note: All applications for admission into the BCom program must be received not later than June 1, 1991 and all supporting documents received by the Office o the Registrar not later than August 1, 1991.

Transfer Applicants from other Faculties, Colleges, or Universities

Under normal circumstances, a transfer applicant is defined as a student who presents a minimum of 30 units of course weight of transferable work to the University The number of transfer applicants admitted to the Faculty is limited by the existing quota as approved by the Board of Governors of this University. Academic performance is the basis used in selecting applicants to be admitted. Transfer of credit may be granted depending on the nature of the program, applicability of the courses taken, and results achieved to a maximum of 60 units of course weight. Any courses to be considered for transfer credit to the BCom program must normally have been completed within eight years prior to admission to the Faculty. An application for a transfer must be received by June 1, 1991 and all supporting documents must be received by the Office of the Registrar not later than July 1, 1991.

52.1.3 Readmission

Students previously enrolled in the Faculty of Business who have interrupted their studies by as much as an academic year or more must apply for readmission by completing an Application for Readmission form which is available from the Office of the Registrar.

Readmission after being required to withdraw will normally not be approved until at least one year has elapsed since the withdrawal. Applicants for all such readmissions must be interviewed by the Undergraduate Admission Committee of the Faculty.

52.1.4 Continuing Students

Students in good standing who are continuing their program without interruption are not required to re-apply for admission; they need only to obtain their registration material and register by using the telephone registration system.

52.2 Changes in Registration

The Faculty makes every effort to assure that program requirements are being met by the courses in which a student is registered. However, the responsibility for the completeness and accuracy of registration rests with the student, and he/she should be satisfied that the program is in accordance with degree specifications.

Adding or Dropping Courses

The deadline for adding first term and full-session courses is September 11 and for second-term courses, January 10. Courses dropped before the deadline will not be part of the student's record.

Withdrawing from Courses

The deadlines for withdrawing from courses are as follows: November 15 for first-term courses; January 10 for full-session courses; March 20 for second-term courses.

A grade of W (withdrawal) will be recorded on a student's record if he/she withdraws from a course after the add/drop deadline but before the withdrawal deadline. No withdrawal after the deadline for withdrawing from courses will be permitted except for major causes beyond a student's control, such as extended illness.

52.3 Withdrawal from the University

Subject to the provisions specified in §52.2.2, a student is free to withdraw from the University at any time but is encouraged to seek advice from Faculty advisers or Student Counselling Services prior to taking action to do so. Further information regarding fee refunds or exemption from fees may be found in §15.2.5 of this Calendar.

52.3.1 Discontinuance of Attendance

The following policies regarding discontinuing registration relate to the status of students registered in the Faculty of Business. Students must apply for permission before discontinuing their registration. The consequence of unapproved discontinuances is the loss of registration privileges in the Faculty except by re-application and consideration with all other applicants under the quota provisions in force at the time of re-application.

(1) Individuals registered as students in the Faculty of Business must have the permission of the Associate Dean, Undergraduate (or designee), if they wish to discontinue their attendance and retain their status in good standing in the Faculty of Business.

(2) Discontinuance is defined to be no course completions for a full Winter Session (September-April).

(3) Normally, discontinuance will be allowed for many reasons related to an individual's personal well-being. These may include health reasons, the necessity for personal reflection or other similar reasons, and they may or may not relate to circumstances related to employment. It is expected that a date of re-commencement and expression of commitment to degree completion will be established at the time discontinuance is allowed.

(4) Normally, discontinuance will not be allowed for the purpose of pursuing other normal academic programs or degrees. It would be deemed unusual to provide a commitment for a place in the BCom Program when discontinuance is directed to pursuing other academic studies.

52.4 Academic Standing and Graduation

(1) Records of academic performance for individual students are maintained in the Student Records Office. Students are encouraged to consult their records from time to time to attest to their accuracy.

Academic performance is normally measured by grade point average attained during the academic year. In this determination, marks of W are ignored throughout; marks of ABF and INF are considered to be marks of 1.

Determination of each student's academic performance will normally occur after the end of the regular academic year, on the basis of the work attempted during that year. However, no student will be classified as probationary or required to withdraw on the basis of fewer than 15 units of course weight attempted since initial enrollment in the Faculty or since the last year-end evaluation of performance. A student whose academic performance evaluation is deferred under the terms of this provision may be evaluated at either or both of the following mid-year and year-end times, with appropriate classification and possible action as described below.

(2) **Promotion** of the student from year to year is contingent upon satisfactory academic performance.

Satisfactory performance is defined as that which yields a grade point average of 5.0 or more.

Probationary performance is that which yields a grade point average of less than 5.0 but not less than 4.5. In such cases, the student must repeat all work for which a mark of less than 4 was received.

Unsatisfactory performance is that which yields a grade point average of less than 4.5. In such cases, the student may not continue in the Faculty.

Required to withdraw from the Faculty is performance having a quality index of 2.0 or less. (The quality index is the grade point average multiplied by the credits passed divided by the credits attempted.) In such cases, credit is earned only for courses in which a mark of 5 or more was received.

Students whose performance has once been classified as either probationary, unsatisfactory, or required to withdraw from the Faculty, must in all subsequent years in the degree program demonstrate satisfactory performance, or else they may not continue in the Faculty.

(3) **First Class Standing** is awarded to each student who achieves a grade point average of at least 7.5 on 27 or more units of course weight of academic study during a Winter Session.

(4) The notation "With Distinction" is inscribed on the permanent record and graduate parchment if the candidate has obtained a grade point average of 7.5 or higher, averaged over the last two years of the program.

(5) The **Dean's List** commends the superior academic performance of each student who has completed 30 units of course weight of study during the Winter Session with a grade point average of 8.0 or more.

(6) **Graduation:** In order to qualify for graduation, the student must satisfy all degree requirements as specified in §53.1 below and demonstrate satisfactory academic performance (as defined in (2) above) during the last academic year of the program. If such final year involved less than 15 units of course weight of study, a sufficient number of immediately preceding full terms of study shall be added to the basis of evaluation to provide a minimum of 15 units of course weight.

The student's attention is directed to the deadlines in the Academic Schedule (§11) regarding application for Bachelor of Commerce degrees to be awarded at Spring and Fall Convocations.

(7) **Reexaminations:**

a. An undergraduate student in the Faculty of Business may be permitted a reexamination provided:

1) The student's overall GPA for the session is 5.0 or greater and otherwise has a satisfactory academic standing.

2) The weight of the final examination is 40% or higher.

3) Positive recommendation from the instructor based on a) consultation with the student; b) review of the student's total performance in the course; c) discussion as to why the student's performance on the final was poor.

b. If a reexamination is approved the following policies apply:

1) The reexamination mark replaces the original examination mark in determining the final grade in the course.

2) Students are permitted only one reexamination during their program.

c. Students requesting a reexamination must follow the procedures detailed in §16.5.4 of this Calendar.

52.5 Transfer of Credit

BCom students who do not hold a prior university degree must normally (a) successfully complete at least 60 units of course weight in University of Alberta courses during the latter half of the program, and (b) be registered as a student in the Faculty of Business while taking these courses. The above minimum of 60 units of course weight could be reduced to 45 for students who do hold a prior university degree.

52.6 Course Load Requirements

Each BCom student normally must, at sometime during the program, be registered as a full-time student during at least two terms (not necessarily consecutive) of the regular academic year.

30 units of course weight is the normal course load for undergraduate students during the Winter Session. Students considering a heavier load are encouraged to consult with the Undergraduate Student Records Office before making a final decision.

Students who plan to do a significant portion of the degree on a part-time basis are advised to consult with the Undergraduate Student Records Office concerning the difficulties they may encounter. The University and the Faculty are unable to assure that courses will be available during terms and at times that are convenient for students with full-time employment. In particular, resource constraints prevent the University from offering large numbers of evening classes.

52.7 Time Limit on Completion of Program

Each BCom student normally must complete all degree requirements within eight years, beginning with the year original admission to the program was granted.

52.8 Appeals and Grievances

There are two major areas in which appeals may be made in the Faculty of Business. They are appeals concerning:

(1) academic matters (eg. promotion, requirements to withdraw, graduation); and

(2) course grades.

Policies and procedures may differ according to the reason for appeal. The formal policies of the Faculty in these areas are available from the Undergraduate Office, 2-20 Business Building. Students should consult these policies and procedures.

52.9 Student Advising

The administrative details associated with students' programs are handled by (a) the Undergraduate Student Records Office for undergraduates, (b) the MBA/MPM Office for masters students, and (c) the PhD Office for doctoral students. These offices maintain records of their students' course registrations, course marks, and status within the program. Students should consult the appropriate office regarding all questions about the program regulations and administration, e.g., admissions, course enrollment, and degree requirements.

All academic members of the Faculty are available to students in all programs for consultation relating to areas of study and career planning.

52.10 Credit by Special Assessment

The Credit by Special Assessment procedure is available for a limited number of courses taught by the Faculty. In all cases the assessment will be by written

examination. Further details may be obtained from the Undergraduate Student Records Office. See also §13.9.5 of this Calendar.

53 Programs of Study

53.1 Degree of Bachelor of Commerce

53.1.1 Detailed Requirements

Students who were admitted to the BCom program prior to 1987 will have to contact the Student Records Office for program counselling. Students admitted September 1987 and later should consult the program requirements that follow. The four-year BCom degree requires 120 units of course weight. Courses typically involve three lecture hours per week; some courses have additional time scheduled for laboratories or seminars. Required subjects total 69 units of course weight, as listed below. The remaining 51 units of course weight are taken in elective subjects selected from the areas indicated below.

Required Courses

	Units of Course Weight
ACCTG 311, 322 and 334	9
BUS 301, 379	6
CMPUT 157 (see note (2) below)	3
ECON 101 and 102	6
ENGL 110 (see note (1) below)	6
FIN 301	3
IND R 301	3
LEG R 301	3
MGTSC 301, 312, and 352	9
MANEC 301, and 379	6
MATH 113 or 114, 120	6
	(see note (3) below)
MARK 301	3
ORG T 301 and 311	6

The following courses are formally recognized as substitutes for the corresponding courses listed above:

ECON 383 for MANEC 301
ECON 282 for MANEC 402
CMPUT 114 or 251 for CMPUT 157.

Other courses may be recognized as substitutes on a case by case basis; contact the Student Records Office for this purpose.

Degree credit will not be granted for both a course and its substitute as indicated above. Further, degree credit will not be granted for a pair of courses where prohibited in the calendar description of either of them.

Credit towards the BCom degree will not be granted to a student transferring from the BCom into another degree program for any course taken after transfer and credited to the other degree's requirements.

Electives

	Units of Course Weight
Humanities and/or Social Sciences	6
Natural Sciences (a minimum of 3 units of course weight with laboratory)	6
Humanities, Social Sciences, Natural Sciences, Mathematics, and/or Computing Sciences, in any combination	12
Unrestricted (No more than 21 units of course weight in the above four groups of electives may be at the100-level.)	15
Business subjects (No more than 24 units of course weight in Business plus Economics electives may be credited to the program.)	12

Notes:

(1) The English requirement must be completed during the first two years of the program.

(2) Students with an interest in computers are encouraged to seek advice from the Student Records Office.

(3) Students who have completed Mathematics 31 are advised to register in MATH 114. Students with an interest in Mathematics are encouraged to take MATH 115 and/or MATH 121 as junior electives.

(4) Students intending to meet the requirements of the Institute of Chartered Accountants of Alberta (CA) should take a minimum of ACCTG 414, 416, 418, 424, 426, and MANEC 466. Other provinces may have different requirements. Students should contact the provincial institute to determine other professional requirements.

(5) Students intending to meet the requirements of the Society of Management Accountants of Alberta (CMA), should take the following courses: ACCTG 414, 418, 424, 426, 456 and MANEC 466. Students should contact the Society to determine other professional requirements.

(6) Students wanting to choose elective courses which satisfy the educational requirements of other professional organizations are encouraged to obtain advice and suggestions directly from the organization(s) of interest.

(7) The following courses are not eligible for credit as required or elective courses, within the Bachelor of Commerce degree: ECON 281, POL S 316, 317; SOC 210; STAT 141, 155, 235, 236, 237, 255; PSYCO 211. Students may take either or both of MANEC 466 and ECON 353, but credit will be granted for one only.

53.1.2 Suggested Course Sequence

The normal sequence of courses within the program is listed below and is indicated in the following flow diagram.

First year: CMPUT 157, ECON 101/102; ENGL 110; MATH 113 or 114; MATH 120, six units of course weight of Natural Sciences (see Classification of Electives, below), and three units of course weight in any area of study other than Business.

Second Year: ACCTG 311/322; BUS 301; MGTSC 301/312, and 15 units of course weight of electives other than Business. (See note about LEG R 301 in the statement of Third Year courses.)

Third Year: ACCTG 334; FIN 301; IND R 301; LEG R 301; MANEC 301; MARK 301; MGTSC 352; ORG T 301/311, and three units of course weight of elective.

At the student's option, LEG R 301 may be moved to the Second Year of the program in exchange for three units of course weight of elective.

Fourth Year: BUS 379, MANEC 379, and 24 units of course weight of electives as required by the elective subject area restrictions.

53.1.3 Classification of Electives

(1) **Natural Sciences**: These electives are to be chosen from the following: ASTRO 110; BIOL 100; BOT 199, CHEM 100, 104, 160; ENT 120; GENET 165, 197; GEOL 102, 103, 201; MICRB 193; PHYS 105, 141; ZOOL 120; and all higher-level Science courses which cite one of these as a prerequisite.

(2) **Humanities and/or Social Sciences**: Courses from the following departments: Anthropology; All language courses; Canadian Studies; Christian Theology; Classics; Comparative Literature; Economics; English; Geography (except GEOG 130); History; Philosophy; Political Science; Psychology; Religious Studies; Romance Languages; and Sociology.

(3) **Humanities and/or Social Sciences and/or Natural Sciences and/or Math and/or Computing Sciences:** Courses listed under (1) and (2) above, plus those offered by the departments of Mathematics and Computing Science, other than core requirements.

(4) **Unrestricted:** Chosen from the following faculties: Agriculture and Forestry; Arts; Business; Home Economics; Education; Engineering; Native Studies; Physical Education and Recreation; Saint-Jean; and Science.

53.1.4 Flow Diagram of Prerequisite Relationships

The position of a course in the diagram reflects its relative position in the program. The course boxes in the diagram have been positioned to indicate when a course is likely to be taken. However, a course does not have to be taken in the particular term indicated. Rather, its relationship to preceding and ensuing courses, as indicated by the arrows, determines the time by which it has to be taken in order not to delay future required courses. However, most courses have a certain leeway in this respect. This leeway is indicated by the lines extending in both directions from the respective course box.

53.1.5 Engineering Options for Business Students

Recognizing the technological component of many modern businesses, the Faculty of Business has entered into an agreement with the Faculty of Engineering to permit some business students to take some engineering courses. The intent of the agreement is to permit a business student to gain some exposure to certain engineering topics or engineering disciplines. This can be accomplished through industrial stand-alone courses. Alternately, students may tailor a concentration of electives in a given technological area. Possible areas include: robotics, computers, land development, oil exploration, and manufacturing processes. Interested students should enquire at the Business Undergraduate Office and develop a program with the Engineering-Business Adviser.

53.2 Specialization Fields in Business

Students can specialize in any of the areas of Business mentioned below, or in other areas of study offered at the University by selecting their options accordingly. A description of the various areas of specialization follows.

53.2.1 Accounting

Description of the Field

Accounting is concerned with the provision, interpretation, and application of financial and other economic information essential to the efficient conduct and evaluation of an organization's activities. It includes a study of data processing and reporting methods, and of the many related measurement and conceptual problems such as how to assess and report the effects of inflation on the organization's earnings and financial status. The information provided by accounting is employed for:

(1) effective planning, control, and decision making by management; and

(2) discharging the accountability of organizations to investors, creditors, government agencies, taxing authorities, employees, consumers, and other users.

Because decisions made by various users are partly based on accounting information, accounting has to adapt to changing business and social needs. In order that the professional accountant be able to meet and/or initiate change, his or her education must therefore extend beyond a mastery of techniques and practices to include a study of their conceptual foundations, rationale, and limitations; and must include an examination of alternative accounting models.

Career Opportunities

Every organization needs to keep track of its financial operations and financial position, and has to make economic decisions. Graduates with an accounting concentration are therefore in demand by industrial and commercial enterprises, financial institutions, and government, as well as by firms of public accountants. An accounting specialization is recommended for students who want to become Chartered Accountants, Certified General Accountants or Certified Management Accountants.

53.2.2 Finance

Description of the Field

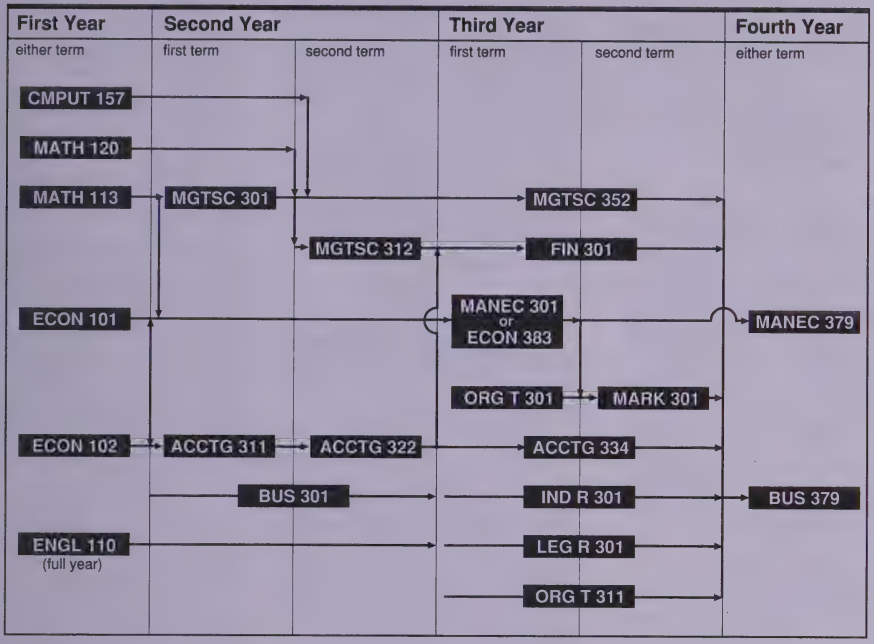
The finance program has three facets: (a) business finance, (b) the institutions of finance, and (c) financial topics of interest to individuals.

(1) Business finance includes the evaluation of the business firm's need for money, and the choice of how this money should be procured: through borrowing, sale of stocks, or other means.

(2) Financial institutions include stock and bond markets, brokers and investment banks, commercial banks and other lending institutions, and government agencies that participate in, or regulate, financial processes.

(3) Topics of interest to individuals include the evaluation and acquisition of common stocks and other investment opportunities. These topics are closely related, for personal and business financing are often two sides of the same coin, with the personal investor acting as a buyer for securities that are sold by a business.

BCom Program (for students admitted after 1986)



Electives

Note: No more than 21 units of course weight of junior electives will be credited to the program.
No more than 24 units of course weight of electives in Business plus Economics will be credited to the program.

Natural Sciences*
*Include Biology, Chemistry, and Physics

★3
★3

Humanities and/or Social Sciences

★3
★3

Humanities / Soc. Sci. Nat'l Sci. / Math / Comput

★3
★3
★3
★3

Senior Business

★3
★3
★3
★3

Unrestricted

★3
★3
★3
★3
★3

Career Opportunities

Corporations and government enterprises employ many finance specialists in finance, controllership, investment analysis, and general management positions. Banks, insurance companies, government financial regulatory agencies, and other organizations specializing in financial affairs hire finance specialists both in specialized staff positions and as part of their regular management.

Instruction in finance provides valuable insights and information for students who plan to enter business for themselves. The problems of obtaining financing and evaluating investment opportunities are frequently critical to the survival and success of the entrepreneurial venture.

53.2.3 Industrial Relations and Human Resources Management

Description of the Field

Studies in industrial relations and human resources management focus on the relations between employees and employers, and on the methods used for determining conditions of work, including collective bargaining and techniques for resolving employer-employee disputes. This study prepares graduates for government or industry positions such as manpower recruitment, selection and placement; administration of wage and salary programs; collective agreement negotiations; collective agreement administration; and labor-management relations research.

Career Opportunities

Employment opportunities in the industrial relations field for those with a Bachelor of Commerce degree exist in business enterprises (both large and small), institutions (such as hospitals, schools, etc.) as well as in federal, provincial and municipal government. Most graduates start in the personnel area and become responsible for the recruiting, hiring, and training of personnel. After several years experience, graduates often move into the labor relations area where they assume the responsibilities of negotiating with trade unions and handling the grievances that arise out of the administration of the union agreement.

53.2.4 Legal Relations

Description of the Field

Studies in legal relations focus on the role of law as it relates to business transactions. This is a new and developing area of studies in the Faculty and was created in response to the ever increasing involvement of public policy and regulatory agencies in business. Students are introduced to the Canadian legal system as well as selected topics from the fields of contract and tort. Those considering a career in business will analyze the major types of legal contracts encountered in daily life. The legal relations courses also deal with the law of business organizations, the legal regulations of business, and commercial transactions.

Career Opportunities

Legal relations courses broaden the legal knowledge of the Faculty's graduates and may be a stepping stone on the way to a career in law.

53.2.5 Management Science

Description of the Field

The Management Science curriculum in our Faculty is composed of three major areas: Operations Research, Statistics, and Computing and Data Processing. The focus in Management Science is upon the application of quantitative techniques to problems of decision-making and resource allocation in business, industry, and government. The problems may involve one or more of the collection, analysis, processing, and management of data or the modelling and simulation of a system for the purpose of optimization. Many of the techniques developed are frequently used in the other functional areas such as finance, business economics, marketing, accounting, and organizational theory.

Career Opportunities

Opportunities are found in such areas as forecasting, inventory management, sales promotion analysis, new product evaluation and introduction, profitability and price analysis, work force turnover analysis, financial budgeting/forecasting, product quality measurement, production planning and scheduling, and plant/facility location analysis. Specialization in management science is also useful for undergraduates whose primary specialization is in other areas such as finance, business economics, and marketing.

53.2.6 Managerial Economics

Description of the Field

Economics is the study of the allocation of scarce resources. Managerial economics focuses on the allocation of scarce resources within the business community. There are two areas of study. The first area of study concentrates on how the business manager can apply economic theory to the operation of the business in all of its functional dimensions, including finance, marketing, industrial relations, and production. The second area of study is concerned with an analysis of the relationships between the business and the economy in general. The roles of economic growth, unemployment, and inflation are examined in terms of how they affect business decision-making.

Career Opportunities

Graduates who specialize in managerial economics have job opportunities in a wide number of positions which require a good understanding of the interface between the business firm and the rest of the economy. Business organizations and government require managerial economists in forecasting and planning departments. Opportunities are also found in private consulting firms.

53.2.7 Marketing

Description of the Field

Marketing is one of the most broadly based areas in the study of business administration. Among those fields which are important to the study of marketing are anthropology, economics, geography, law, mathematics and statistics, psychology and social psychology, and sociology. Further, a marketing student must be keenly aware of the cultural and historical environments in which decisions are made.

Career Opportunities

Graduates who specialize in marketing find opportunities in both the private and public sectors. New and exciting opportunities have recently become available as governments and non-profit organizations use marketing principles in marketing their goods and services. Traditional employment opportunities are also open in staff and operational functions.

Specialization in marketing research and quantitative analysis leads to staff positions in private and public organizations. Operating positions in marketing strategy and development are frequently found as well as those in advertising and promotion management, physical distribution and logistics management, product development, and pricing analysis.

53.2.8 Organizational Theory and Behavior

Description of the Field

Organizational Theory and Behavior is concerned with the management of complex organizations. Organizations to which the field is relevant include government agencies, non-profit organizations such as hospitals, large business firms, and small privately owned businesses. Topics covered include the strategic positioning of organizations in terms of their context, the design and impact of planning and human resource management systems, alternative structures of authority and responsibility, the role of leadership and supervision and their effects upon motivation and human performance, communications, group dynamics, the nature of power, politics and conflict within the work place, and the ethical premises of contemporary approaches to management.

As a consequence of studying this field, a student can expect to understand why organizations and individuals in them function as they do, and what can be done to improve their effectiveness.

Career Opportunities

Organizational theory and behavior prepares the students for positions in management, personnel and industrial relations, consulting, and a variety of staff assignments in private industry and government service.

54 Details of Courses

54.1 General Information

All courses taught by the Faculty of Business are listed and briefly described below. However, any course offered within the University (except those listed in §53.1.1(7)) may be counted as an elective within the BCom program.

Each course is designated by its abbreviation and number. Courses numbered 100 through 199 are junior courses, normally taken by first-year undergraduates. Those numbered 200 through 499 are senior courses. All Business courses required by the BCom program carry 300-level numbers; all Business electives carry 400-level numbers.

Following the title of the course is the symbol ★ standing for "units of course weight", and a number indicating the weight of the course as used in computing grade-point averages. The next three figures, enclosed in parentheses, indicate the hours of instruction required by the course in a week. The format is as follows: the first position indicates lecture hours; the second position indicates seminar hours (s), demonstration (d), clinic (c) or lecture-lab (L); and the third position indicates laboratory hours.

Normally, a full-year course represents six units of course weight and a half-year course three units of course weight, with or without laboratory hours as indicated. If the course is a single-term course, the term in which it is usually offered is mentioned before the hours of instruction.

The appearance of a course description in the following list does not constitute any guarantee that the course will be offered in the forthcoming session. It is not intended that all courses shall be offered each year. Enrollment in all courses, except ACCT 300 and LEG R 301, is restricted to students registered in the Faculty of Business, or to students registered in specified programs that require Business courses to meet degree requirements and who have obtained prior approval of their Faculty. Furthermore, a number of changes usually occur after the preparation of the Calendar. Information as to which courses will be offered, the names of the instructors, and all further details must be sought from the Undergraduate Student Records Office.

The following table lists the old and the new (effective 1987) numbers of the undergraduate courses taught by the Faculty of Business.

Old	New	Old	New
ACCTG 202	ACCTG 311	MANEC 411	MANEC 44
ACCTG 204	ACCTG 322	MANEC 412	MANEC 41
ACCTG 302	ACCTG 414	MANEC 421	MANEC 46
ACCTG 304	ACCTG 334	MANEC 441	MANEC 48
ACCTG 307	ACCTG 300	MANEC 442	MANEC 42
ACCTG 402	ACCTG 416	MANEC 445	MANEC 45
ACCTG 403	ACCTG 418	MANEC 446	MANEC 49
ACCTG 404	ACCTG 424	MANEC 447	MANEC 49
ACCTG 406	ACCTG 426	MANEC 450	MANEC 45
ACCTG 408	ACCTG 436	MARK 304	MARK 301
ACCTG 412	ACCTG 456	MARK 402	MARK 412
ACCTG 430	ACCTG 468	MARK 403	MARK 432
ACCTG 445	ACCTG 494	MARK 404	MARK 474
ACCTG 446	ACCTG 495	MARK 405	MARK 415
ACCTG 447	ACCTG 496	MARK 407	MARK 475
BUS 365	BUS 424	MARK 408	MARK 452
BUS 401	BUS 379	MARK 411	MARK 488
FIN 304	FIN 301	MARK 414	MARK 462
FIN 401	FIN 413	MARK 418	MARK 422
FIN 411	FIN 412	MARK 419	MARK 442
FIN 415	FIN 442	MARK 445	MARK 495
FIN 423	FIN 414	MARK 446	MARK 496
FIN 430	FIN 488	MARK 447	MARK 497
FIN 431	FIN 416	MGTSC 306	MGTSC 30
FIN 432	FIN 422	MGTSC 307	MGTSC 31
FIN 433	FIN 434	MGTSC 356	MGTSC 35
FIN 445	FIN 495	MGTSC 406	MGTSC 43
FIN 446	FIN 496	MGTSC 407	MGTSC 42
FIN 447	FIN 497	MGTSC 410	MGTSC 42
IND R 304	IND R 301	MGTSC 411	MGTSC 43
IND R 401	IND R 432	MGTSC 412	MGTSC 42
IND R 411	IND R 402	MGTSC 415	MGTSC 40
IND R 412	IND R 403	MGTSC 417	MGTSC 41
IND R 413	IND R 452	MGTSC 419	MGTSC 41
IND R 414	IND R 442	MGTSC 431	MGTSC 45
IND R 415	IND R 422	MGTSC 432	MGTSC 45
IND R 445	IND R 495	MGTSC 445	MGTSC 49
IND R 446	IND R 496	MGTSC 446	MGTSC 49
IND R 447	IND R 497	MGTSC 447	MGTSC 49
LEG R 311	LEG R 301	ORG T 303	ORG T 30
LEG R 312	LEG R 402	ORG T 305	ORG T 31
LEG R 411	LEG R 422	ORG T 421	ORG T 42
LEG R 412	LEG R 432	ORG T 422	ORG T 42
LEG R 413	LEG R 403	ORG T 430	ORG T 40
LEG R 445	LEG R 495	ORG T 440	ORG T 41
LEG R 446	LEG R 496	ORG T 442	ORG T 43
LEG R 447	LEG R 497	ORG T 445	ORG T 49
MANEC 333	MANEC 402	ORG T 446	ORG T 49
MANEC 409	MANEC 434	ORG T 447	ORG T 49

Physical Requirements for University Courses

The University has a commitment to the educati of all academically qualified students and special se ices are frequently provided on campus to assist dis bled students.

Nevertheless, some courses make certain unavoidable demands on students with respect to the possession of a certain level of physical skill or ability if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the Department concerned and the Disabled Student Services Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for all off-campus courses, instructors may be obliged to refuse registration in such courses.

54.2 Accounting

ACCTG 300 Financial Accounting
★3 (either term, 3-0-0). Accounting and reporting to persons outside of the organization. Note: Not open to students registered in the Faculty of Business.

ACCTG 311 Introductory Accounting
★3 (either term, 3-1.5s-0). Postulates, principles, the accounting cycle, capital and income measurement, financial statement preparation and analysis; emphasis on reporting to shareholders, creditors and other external decision-makers. Prerequisite: ECON 101, 102.

ACCTG 322 Managerial Information and Control Systems
★3 (either term, 3-0-0). Corporate goals, planning and control concepts, cost accumulation for pricing purposes, and product costing. Prerequisite: ACCTG 311.

ACCTG 334 Accounting Information Systems
★3 (either term, 3-0-0). Introduction to total information systems with emphasis on the role of accounting, using both conceptual reviews and case material pertaining to decision-making by owners, creditors, and managers. Prerequisite: ACCTG 322.

ACCTG 414 Intermediate Financial Accounting
★3 (either term, 3-0-0). An in-depth treatment of the theory and methods of the GAAP (Generally Accepted Accounting Principles) model of Accounting, and an evaluation of its strengths and weaknesses. Comparative reference to alternative Accounting models will be made on a selective basis. Prerequisite: ACCTG 311, ACCTG 322, MANEC 301.

ACCTG 416 Accounting Theory
★3 (either term, 3-0-0). An examination of the structure of accounting theory, including a thorough study of theories of income and value relevant to accounting. A framework for evaluating these theories, including the theories supporting generally accepted accounting principles, is considered. Other current topics in financial accounting may be included from time to time. Prerequisite: ACCTG 414, FIN 301. Open only to fourth-year Business students, or by consent of the Department Chair.

ACCTG 418 Advanced Financial Accounting
★3 (either term, 3-0-0). Analysis of complex accounting problems with emphasis on current issues in accounting practice. Prerequisite: ACCTG 416. Open only to fourth year Business students or by consent of the Department Chair.

ACCTG 424 Intermediate Managerial Control Concepts
★3 (either term, 3-0-0). Accounting for managerial decision-making. Emphasis on cost and revenue accumulation for control and pricing problems as well as on product costing. Prerequisite: ACCTG 322, MGTSC 352, ORG T 301, ORG T 311.

ACCTG 426 Advanced Managerial Control Concepts
★3 (either term, 3-0-0). Current research and cases in managerial accounting. Prerequisite: ACCTG 424. Open only to fourth year Business students or by consent of the Department Chair.

ACCTG 436 Advanced Accounting Information Systems
★3 (second term, 3-0-0). Managerial decision-making with stress on the role of accounting measurements. Emphasis on the use of the computer in processing data. Prerequisite: ACCTG 334.

ACCTG 456 Auditing History, Theory, and Current Thought
★3 (either term, 3-0-0). Internal and external auditing history and philosophy. Functional or operational auditing, the nature of evidence, ethics, and independence. Prerequisite: ACCTG 414.

ACCTG 468 Corporate Taxation
★3 (either term, 3-0-0). A study of the major tax concepts and ideas in the taxation of corporations, corporate distributions and transactions between corporations and their shareholders. Prerequisite: MANEC 466 or ECON 453.

ACCTG 494 Individual Research Projects
★3 (either term, 3-0-0). Special study for advanced undergraduates. Prerequisite: Consent of instructor and Associate Dean. (When a student registers in this course for a second or third time subsequent higher course numbers are to be used: ACCTG 495, 496.)

54.3 Business

BUS 301 Introduction to Canadian Business
★3 (either term, 1.5-1.5s-0). This is an interdisciplinary course which addresses in an integrative manner the basic characteristics of the Canadian business system, takes a management and decision-making perspective and examines how these fit into and contribute to Canadian society. Within this context, reasons for studying the basic disciplines in business will be examined, as will theories of choice, behavioral theories, institutional arrangements and other aspects of business. (Not open to first year students).

BUS 379 Business Policy
★3 (either term, 3-0-0). Case studies in business policy. Prerequisite: FIN 301, IND R 301, MGTSC 352, MARK 301, and ORG T 311.

BUS 424 Administration of the Small Business
★3 (either term, 3-0-0). Issues related to the small business. Prerequisite: FIN 301.

54.4 Finance

FIN 301 Business Finance
★3 (either term, 3-0-0). Introduction to financial decision-making. Prerequisite: ACCTG 322, MGTSC 312, CMPUT 157.

FIN 412 Investment Principles: Security Analysis
★3 (either term, 3-0-0). Theories of investment with special reference to types of securities, prices, and market operation. Analytical techniques in the selection of securities. Prerequisite: FIN 301.

FIN 413 Risk Management
★3 (either term, 3-0-0). This course examines the markets and valuation models for options and future contracts, and their application to hedging and the valuation of the other financial contracts. Prerequisite: FIN 412.

FIN 414 Securities Markets and Investment Banking
★3 (either term, 3-0-0). This course covers the organization and operation of primary and secondary securities markets. It deals with such topics as alternative methods of placing new issues, the role of investment dealers in pricing new issues, underwriting and brokerage compensation, a comparison of auction versus negotiated secondary markets, and the economics of money management. Prerequisite: FIN 301.

FIN 416 Advanced Portfolio Management
★3 (either term, 3-0-0). Recent developments in capital markets theory, empirical studies and the implications for theoretical developments for investment planning and evaluation of investment performance. Prerequisite: FIN 412.

FIN 422 Capital Investment
★3 (either term, 3-0-0). Capital budgeting and the determination of the cost of capital to the firm. Prerequisite: FIN 301.

FIN 434 Advanced Corporate Finance
★3 (either term, 3-0-0). This course covers advanced topics in corporate finance such as capital structure, dividend policy, asset selection, agency problems, mergers and acquisitions. Prerequisite: FIN 422.

FIN 442 International Financial Markets
★3 (either term, 3-0-0). An overview of the international financial environment and the financial function in the multi-national corporation. Its purpose is to provide decision-making skills in international money and capital markets. Prerequisite: FIN 301.

FIN 488 Selected Topics in Finance
★3 (either term, 3-0-0). Prerequisite: FIN 301 and consent of Department Chair.

FIN 495 Individual Research Projects
★3 (either term, 3-0-0). Special study for advanced undergraduates. Prerequisite: Consent of instructor and Associate Dean. (When a student registers in this course for a second or third time, subsequent higher course numbers are to be used: FIN 496, 497.)

54.5 Industrial Relations

IND R 301 Industrial Relations in Canada
★3 (either term, 3-0-0). A general introduction to studying employment relationships in unionized and non-unionized organizations and how they are affected by factors within the larger legal, socio-economic, and political environment.

IND R 402 Collective Bargaining
★3 (either term, 3-0-0). A comprehensive study of collective bargaining including the theories of bargaining, negotiating techniques and the implications of collective bargaining for public policy. A simulation of contract negotiations is conducted. Prerequisite: IND R 301.

IND R 403 Administration of Agreements
★3 (either term, 3-0-0). A detailed analysis of the day-to-day administration of collective agreements and grievance arbitration procedures and jurisprudence. Prerequisite: IND R 301.

IND R 422 Human Resource Planning
★3 (either term, 3-0-0). An introduction and examination of human resource planning (manpower planning) at the firm, industry, and economy levels, as well as relevant government policies. Prerequisite: ORG T 301 and IND R 301.

IND R 423 Staffing
★3 (either term, 3-0-0). Philosophy and procedures in obtaining and maintaining an efficient work force with emphasis on the methods of initiating and carrying out an effective human resource management program. Includes recruitment, selection, training, and development of human resources. Prerequisite: ORG T 301 and IND R 301.

IND R 424 Compensation Management
★3 (either term, 3-0-0). Focus on the development and administration of programs for job evaluation, wage surveys, wage and salary systems and administration, performance analysis and evaluation, employee services and fringe benefits. Prerequisite: ORG T 301 and IND R 301.

IND R 432 Labor Relations Law and Legislation
★3 (first term, 3-0-0). An examination of the legal framework within which collective bargaining takes place in Canada.

IND R 442 Comparative Industrial Relations Systems
★3 (second term, 3-0-0). This course examines the economic, political and social philosophy of the industrial relations systems of several countries in various stages of industrialization. Prerequisite: IND R 301.

IND R 495 Individual Research Projects
★3 (either term, 3-0-0). Special study for advanced undergraduates. Prerequisite: Consent of instructor and Associate Dean. (When a student registers in this course for a second or third time, subsequent higher course numbers are to be used: IND R 496, 497.)

54.6 Legal Relations

LEG R 301 Legal Foundations of the Canadian Economy
★3 (either term, 3-0-0). A synoptic view of the Canadian legal system, with emphasis on underlying considerations of social policy. While considering the nature, sources, philosophy, and policy objectives of the law, selected topics from the fields of tort and contract will be analysed.

LEG R 402 Business Contracts
★3 (either term, 3-0-0). An examination of the special types of contracts that are encountered in business and commercial life. Topics include contract of sale, agency, negotiable instruments, insurance, bailment, employment contracts and contracts involving land as well as societal regulation of the freedom of contract. Prerequisite: LEG R 301.

LEG R 403 Commercial Transactions
★3 (either term, 3-0-0). An integrated analysis of the legal principles applying to commercial transactions, including an examination of the statutes and case law governing the sale of goods, conditional sale and chattel mortgages. Prerequisite: LEG R 301.

LEG R 422 Law of Business Organizations
★3 (either term, 3-0-0). An introduction to the role of the corporation in the business and commercial life of Canada and Alberta, with emphasis on the small private company. Topics include characteristics of corporate existence, process of incorporation, forming a private company, relationship with third parties, distinction between management and ownership, duties of directors and officers, and shareholder rights. Prerequisite: LEG R 301.

LEG R 432 The Legal Regulation of Business
★3 (either term, 3-0-0). An examination of the principles of law that underlie the administrative regulation of business by governmental agencies. A representative agency from each of the three levels of government will

be analysed to determine how it is created, what powers it possesses, how it uses its powers and how its powers are constrained. Prerequisite: LEG R 301.

LEG R 442 International Business Law
★3 (either term, 3-0-0). A study of the law regulating the conduct of international business transactions. This includes trade law: GATT, commodity agreements, economic integration, national rules; finance law: IMF, OECD, ICSID, multinationals, promotion and financing of world trade; and commercial law: payment mechanisms, international commercial contracts, UN Convention on the International Sale of Goods, settlement procedures, pertinent national and international laws. Corequisite: Recommended MANEC 444 and FIN 442.

LEG R 495 Individual Research Projects
★3 (either term, 3-0-0). Special study for advanced undergraduates. Prerequisite: Consent of instructor and Associate Dean. (When a student registers in this course for a second or third time, subsequent higher course numbers are to be used: **LEG R 496, 497**.)

54.7 Managerial Economics

MANEC 301 Micro-economics for Canadian Business Management
★3 (either term, 3-0-0). Theories of choice as applied to consumer behavior and business decisions, production and price determination in alternative market forms; interrelatedness of firm decisions and of market outcomes; the impact of uncertainty. Prerequisite: ECON 101/102, MATH 113 or equivalent. Students may receive credit for only one of ECON 381, 383 or MANEC 301.

MANEC 379 Government and Business
★3 (either term, 3-0-0). This course analyzes public attitudes and institutional arrangements which affect the interfaces between government and business, as well as the interaction of private management and public planning in the Canadian environment. It also deals with the structure of the macroeconomic environment and its responses to changing conditions, as well as the impact of changes in the macroeconomic environment on forecasting and decision-making in particular industries and enterprises. Prerequisite: ECON 383 or MANEC 301.

MANEC 402 Aggregate Income Analysis
★3 (either term, 3-0-0). The theoretical examination of the determinants of national income. Ways in which governments, consumers, and investors combine to determine income, employment growth, and stability. Prerequisite: ECON 101/102. Credit will not be given for both MANEC 402 and ECON 382.

MANEC 414 Competitive Strategy
★3 (either term, 3-0-0). An analysis of the ways in which firms develop competitive plans. An examination of the effect of trade regulation on the design of competitive plans. Prerequisite: MARK 301.

MANEC 424 The Energy Industry, Public Utilities, and Regulation
★3 (either term, 3-0-0). A theoretical and empirical examination of the determinants of energy supply and demand. Problems in pricing and regulation of energy industries and public utilities are analyzed. Canadian Federal and Provincial policies are reviewed in depth. Prerequisite: MANEC 301.

MANEC 434 Canadian Business History
★3 (either term, 3-0-0). The development of the Canadian business system. Special attention is given to the environmental and technological forces that gave shape to the growth of Canada and how these have influenced the character and organizational structure of business.

MANEC 444 International Business
★3 (either term, 3-0-0). A course to acquaint students with the problems and opportunities arising when a firm operates in more than one country: the choice between operating abroad, export and licensing, the nature and causes of the emergence of new capital markets, international institutions facilitating export finance, commodity price stabilization programmes, the implications of commercial, tax and integration policy for business decisions, aspects of international management such as hedging of foreign exchange risk, transfer pricing and choice of optimal capital structure.

MANEC 445 Competitive Strategies in the International Business Environment
★3 (either term, 3-0-0). This course provides an understanding of the process of the design and implementation of competitive strategies by firms with either multi-country or global operations. Emphasis is placed on competitive strategy frameworks, changing patterns of international competition, levels of analysis of international competition, and formulation and implementation of international competitive strategies. The material is illustrated by means of special case studies of Canadian firms. Prerequisite: Manec 301

MANEC 454 Urban Land Management
★3 (either term, 3-0-0). Economic characteristics of urban real estate markets; nature of urban land use; city growth and development; locational factors in determination of land use; types of interest in land; government regulations affecting land ownership. Prerequisite: MANEC 301.

MANEC 466 Taxation in Theory and Practice
★3 (either term, 3-0-0). An examination of the Canadian tax structure from economic, legal, and administrative points of view. BCom degree credit will not be granted for both MANEC 466 and ECON 353.

MANEC 484 Economic Problems
★3 (either term, 3-0-0). Current economic problems in business.

MANEC 495 Individual Research Projects
★3 (either term, 3-0-0). Special study for advanced undergraduates. Prerequisite: Consent of instructor and Associate Dean. (When a student registers in this course for a second or third time, subsequent higher course numbers are to be used: **MANEC 496, 497**.)

54.8 Management Science

MGTSC 301 Probability and Statistics for Business, Part I
★3 (either term, 3-0-0). Introduction to data anaylsis; probability; discrete and continuous random variables and probability distributions; expectation and variance; normal and binomial distributions; sampling; sampling distributions for means and proportions; quality control; confidence intervals and tests of hypotheses for means and proportions; Bayesian decision theory. Prerequisite: MATH 113 or 114.

MGTSC 312 Probability and Statistics for Business, Part II
★3 (either term, 3-0-0). Statistical inference for the variance; statistical inference for the means, proportions and variances from two populations; analysis of variance; non-parametric statistics; joint probability distributions; marginal and conditional distributions; covariance, correlation and independence; contingency tables; simple linear regression, multiple linear regression, time series analysis. Prerequisite: MATH 120, MGTSC 301.

MGTSC 352 Operations Management
★3 (either term, 3-0-0). A problem-solving course which introduces the student to deterministic and stochastic models which are useful for production planning and operations management in business and government. Prerequisite: MATH 120, MGTSC 301, CMPUT 157.

MGTSC 404 Decision Analysis
★3 (either term, 3-0-0). Analysis of decision-making under uncertainty. This includes: single-person decision theory (Bayesian analysis); group decision theory, risk-sharing, and the theory of syndicates; and competitive game theory. The course seeks to develop a framework for rational behavior in the face of uncertainty. Prerequisite: MGTSC 301.

MGTSC 413 Multivariate Statistical Methods in Business
★3 (either term, 3-0-0). Estimation techniques for statistical models relating large sets of variables. Models discussed may include multiple regression, multiple and partial correlation, anaylsis of variance, multivariate analysis of variance, canonical correlation, discriminant analysis, principal components, factor anaylsis, cluster analysis, multi-dimensional scaling, log linear and logit models, and multidimensional contingency tables. Prerequisite: MGTSC 312 or equivalent.

MGTSC 414 Statistical Models in Business
★3 (either term, 3-0-0). Estimation techniques for various types of statistical models. Emphasis on application of techniques to examples from the functional areas of business. Models may include multiple regression, lagged models, models with autocorrelated errors, simultaneous equations, and time series models. Prerequisite: MGTSC 312.

MGTSC 422 Simulation and Computer Modelling Techniques in Management
★3 (either term, 3-0-0). This course will discuss computer modelling of management systems in such functional areas as accounting, finance, marketing and production; basic concepts of deterministic and probablistic (Monte Carlo) simulation; implementation using various computer languages; case studies. Microcomputer applications will be particularly emphasized. Prerequisite: CMPUT 157 and one course in Accounting (FIN 301 is also recommended).

MGTSC 424 Stochastic Systems
★3 (either term, 3-0-0). A course in modelling and optimizing probabilistic time-varying systems such as airport operations, traffic flow, hospitals, production processes, and consumer purchasing behavior. The following topics are covered: Markov processes; qu ing models; dynamic programming; policy iteration inventory theory; simulation. Prerequisite: MATH MGTSC 301 and CMPUT 157.

MGTSC 426 Operations Management in the Priv and Public Sectors
★3 (either term, 3-0-0). Management science and erations research models applied to real operating tems. This course will present case studies illustr all aspects of the application of quantitative mode actual problems. Modelling the system and interpr the results will be stressed as opposed to develo solution techniques. Areas of application may incl marketing, finance, urban problems, health care deliv scheduling, inventory and routing. Prerequisite: MG 352.

MGTSC 427 Topics in Mathematical Programmin
★3 (either term, 3-0-0). A course in mathematical gramming topics which may include problems of optimization, the decomposition principle, int programming, optimal search techniques, quadratic gramming, general non-linear programming, dyn programming and network programming. Prerequi MGTSC 352.

MGTSC 433 Business Data Processing
★3 (either term, 3-0-0). The detailed study of busi data and file structures; mainframe programmin COBOL; on-line interactive data processing; datab management structures and languages; developme database systems on microcomputers; design and i agement of large database; case studies. Prerequi CMPUT 157 or equivalent. Students registered with Department of Computing Science are required to the consent of the Chair of the Department of Fina and Management Science.

MGTSC 454 Production Management
★3 (either term, 3-0-0). A systems oriented view o production management field. Analytical tools avail to the production manager and their relationship t performance of the total system. Topics may inc statistical control, scheduling, assembly line balan simulation, inventory, work measurement, forecas location and aggregate planning. Prerequisite: MG 352.

MGTSC 488 Selected Topics in Management Science
★3 (either term, 3-0-0). Prerequisite: Consent o Department Chair.

MGTSC 495 Individual Research Projects
★3 (either term, 3-0-0). Special study for adva undergraduates. Prerequisite: Consent of instructor Associate Dean. (When a student registers in this co for a second or third time, subsequent higher co numbers are to be used: **MGTSC 496, 497**.)

54.9 Marketing

MARK 301 Fundamentals of Marketing
★3 (either term, 3-0-0). The marketing concept, m segmentation and measurement, buyer behavior, keting planning and budgeting, strategic and tac decisions concerning elements of the marketing Prerequisite: MANEC 301 and ORG T 301. Open or third and fourth year Business students.

MARK 412 Marketing Research
★3 (either term, 3-0-0). Nature and significanc marketing research. Marketing research methods vestigation and analysis of specific research probl Prerequisite: MARK 301.

MARK 415 Quantitative Techniques in Marketing Analysis
★3 (second term, 3-0-0). Mathematical concepts techniques that can be used in the analysis and sol of marketing management problems. Prerequisite: M 412.

MARK 422 Consumer Behavior
★3 (either term, 3-0-0). The study of the factors af ing the consumer decision process. Analysis of cons behavior models and their application to marketing sion-making, with an emphasis on empirical rese Prerequisite: MARK 301.

MARK 432 Communication Processes in Market
★3 (either term, 3-0-0). Basic concepts and functio advertising and communication in the economy; cons motivation; measurement of communication effectiver Prerequisite: MARK 301.

MARK 442 Seminar in International Marketing
★3 (second term, 3-0-0). Analysis of problems of national marketing; development of marketing strat in light of world cultural, economic, geographic, and political factors. Prerequisite: MARK 301.

MARK 452 Marketing Decision Simulation
•3 (either term, 3-0-0). Marketing decision-making in a ynamic simulated environment. Emphasis on a compu- erized marketing decision game, plus readings in the terature. Prerequisite: MARK 301.

MARK 462 Channel Management
•3 (either term, 3-0-0). Marketing organization at the etail and wholesale levels of the marketing channel. pecialization and integration of marketing organization; mphasis on systems analysis. Problems in physical istribution and transportation. Prerequisite: MARK 301.

MARK 468 Retail Management
•3 (either term, 3-0-0). Planning and managing enter- rises. Topics include: location theory; competition analysis; ricing, promotion, and merchandising strategies; busi- ess design; buying/supplier policies;and consumer be- avior. Prerequisite: MARK 301.

MARK 474 Industrial Marketing Strategy
•3 (either term, 3-0-0). Nature and importance of industrial narketing strategy; analysis of industrial marketing roblems; cases will be used to explore selected dimensions f industrial marketing in depth. Prerequisite: Any two of MARK 412, 422, 432, or 462. Credit will not be given for oth MARK 474 and MARK 475.

MARK 475 Marketing Management
•3 (either term, 3-0-0). Advanced marketing strategy nd planning in consumer marketing organizations. Pre- equisite: MARK 301.

MARK 488 Marketing Policies and Problems
•3 (either term, 3-0-0). Special topics in marketing, to e announced in advance by the instructor. Prerequisite: MARK 301.

MARK 495 Individual Research Projects
•3 (either term, 3-0-0). Special study for advanced ndergraduates. Prerequisite: MARK 412 or equivalent, onsent of instructor, and Associate Dean. (When a tudent registers in this course for a second or third, ubsequent higher course numbers are to be used: **MARK 496, 497.**)

54.10 Organization Theory

ORG T 301 Behavior in Organizations
•3 (either term, 3-0-0). Examines the sociological and sychological bases of individual behavior in organizations. opics of individual psychology examined will include ognition, perception, attitude formation and change, ersonality structure and change, and motivation. The ourse will also investigate the behavior of individuals in roups and organizations. In this context various aspects f group dynamics such as leadership, communication, nterpersonal sensitivity, morale and satisfaction, and he formation and attainment of individual and group oals will be discussed.

ORG T 311 Theory of Formal Organizations
•3 (either term, 3-0-0). An examination of the structural nd functional imperatives of formal organizations. For- nation, structure, and change in complex organizations ncluding bureaucratic, matrix, and process-oriented types f organizational designs. Power, authority, and legiti- nacy variables are examined using anthropological and ociological methodological constructs.

ORG T 402 Seminar in Advanced Theories of Behavior in Organizations
•3 (either term, 3-0-0). The same general areas will be overed as in ORG T 301. However, the coverage will e in-depth and the seminar format will be utilized in rder to develop a maximal interchange of ideas between nstructor and student. Prerequisite: ORG T 301.

ORG T 412 Seminar in Advanced Concepts of Formal Organization Theory
•3 (either term, 3-0-0). An analysis of the philosophical nd empirical bases of organization theory. The implica- ons of bureaucratic dysfunctions, structural modifica- ons, scientific management concepts and industrial umanism. Critical issues in adapting traditional organi- ation structures to technological and societal changes ill be explored. Prerequisite: ORG T 311.

ORG T 432 Sex Roles in Organizations
•3 (either term, 3-0-0). The factors affecting differences etween males and females in opportunities and per- ormance in managerial positions in organizations. Pre- equisite: ORG T 301 and 311 or consent of the instructor.

ORG T 495 Individual Research Projects
•3 (either term, 3-0-0). Special study for advanced ndergraduates. Prerequisite: Consent of instructor and ssociate Dean. (When a student registers in this course or a second or third time, subsequent higher course umbers are to be used: **ORG T 496, 497.**)

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Dentistry

Faculty of Dentistry

61 Introductory

61.1 Members of the Faculty

61.1.1 Officers of the Faculty

Dean
NK Wood, DDS, MS, PhD

Associate Dean for Academic Affairs
HM Dick, DDS, MSc, FRCD(C), FACD

Assistant Dean for Clinical Affairs
CG Baker, DMD, MSc, FRCD (C)

Graduate Studies and Research
JA Hargreaves, LDS, MChD, AM, MRCD(C)

Academic Standing
HM Dick, DDS, MSc, FRCD(C), FACD

Universities Coordinating Council
HM Dick, DDS, MSc, FRCD(C), FACD

Curriculum
HM Dick, DDS, MSc, FRCD(C), FACD

Admissions
WC Meyer, DDS

Learning Resources
KW Hinkelman, BSc, DDS, MEd, PhD-Ed

Continuing Education
SK Patterson, BSc, DDS

Patient Management
JM Plecash, DDS, MSc, Dip Perio

Department of Dentistry, University Hospital
BK Arora, BSc, BDS, MS, DMD, FRCD(C), FICD

Administrative Officer
F Pidner, BA

61.1.2 Dental Health Care

Professor and Acting Chair
GW Thompson, DDS, MScD, PhD, FRCD(C), FICD, FACD, FIADS

Professors
CJ Osadetz, DDS, MEd
GW Thompson, DDS, MScD, PhD, FRCD(c), FICD, FACD, FIADS

Associate Professors
RE Donnely, DDS - Joint Appointment - two departments
BP Martinello, DDS, DDPH, FRCD, FICD(C)
J Pimlott, Dip D HYG, BSc, MSc
J Theodore, BA, DDS - Joint Appointment - two departments

Clinical Associate Professor
KL Cullum, BSc, DDS - Joint appointment - two departments

Clinical Assistant Professors
S Barry, Dip D HYG, BEd
P Dray, AA, GDH, BSc
A Eastwood, BSc, Dip D HYG
B Gitzel, Dip D HYG, BEd
J Ritchie, Dip D HYG - Joint Appointment - two departments
P Schulte, Dip D HYG
B Walker, Dip D HYG - Joint Appointment - two departments
MP Wilson, Dip D HYG, BEd - Joint Appointment - three departments

Instructors
G Hess, BA, BEd, MEd, PhD
J Lockau, BSc, Reg Diet

Clinical Instructors
K Arsenault, RDA
S Cobban, Dip D HYG
A Fiorillo, Dip D HYG, DDS
S Heglund
J Juchli, Dip D HYG
C MacDonald, BA, Dip D HYG
L Mowat, Dip D HYG
E Roethlingshoefer, RDA
RD Sandilands, DDS
JI Woronuk, DMD
J Woytuck, BA, DDS - Joint appointment - two departments

61.1.3 Restorative Dentistry

Professor and Chair
KW Hinkelman, BSc, DDS, MEd, PhD

Professors
DM Collinson, DDS, Cert Endo
KH Gibb, DDS - Joint Appointment - three departments
DB Gilboe, DDS, MSc, Cert Fixed Pros
WT Harley, BSc, DDS, Cert Rest Dent, MSD, MRCD(C), RCDS
GR Holland, BSc, BDS, PhD
WC Meyer, LRSM, DDS
DA Scott, BSc, MSc, DDS

Associate Professors
GA Deane, DDS
RE Donnelly, DDS - Joint Appointment - two departments
A Kaburda, DDS
SS Kucey, BSc, DDS
KE Manning, BSc, DDS
JN Pochynok, BSc, DDS
K Polukosko, DDS, MSD, Cert Rest Dent
HK Tan, BDent Surg, Dip Prosth, MSc
J Wolfaardt, BSc, MSc, PhD

Clinical Associate Professors
A Borkent, DDS
DM Buchanan, BSc, DDS
KH Compton, BSc, DDS, Cert Fixed Prosth, MSc
RL Costigan, DDS
EA Krause, DDS
BA Linke, BSc, DDS, MSD
TR Morgan, DDS, MSD

Clinical Assistant Professors
W Buck BSc, DDS
B Kindrachuk, DDS
DJ MacDougall, BSc, DDS, MSc
MS Taskey, BSc, DDS
KW Wong, BSc, DDS

Clinical Instructors
B Alfaro, BSc, DDS
A Bailey, BSc, MD, DDS
C Boyko, BSc, MSc
BS Bennett, DDS
M Chrtistensen, DDS
R Croutze, BSc, DDS
W Hackman, BSc, DDS
GJ Jansen, DMD
H Jesperson, DDS
J Lavkulik, BSc, DDS
LR Moore, DDS
BR Neumann, BSc, DDS
D Powell, DDS, MSD
GW Poznikoff, BSc, DDS
WJ Primrose, DDS
J Sirdar, BSc, DDS
EP Starko, BSc, DDS
C Stefan, DMD
RM Sturmay, BSc, DDS
M Wasylyk, BSc, DDS
N Weaver, DDS
W Wesner, BSc, DDS - Joint Appointment - two departments
A Wong, BSc, DDS - Joint Appointment - two departments
M Zell, DDS
G Zenith, BSc, DDS

61.1.4 Stomatology

Professor and Chair
CG Baker, DMD, MSc, FRCD(C)

Professors
BK Arora, BSc, BDS, MS, DMD, FRCD(C), FICD
FM Eggert, DDS, MSc, Dip Perio, PhD
KE Glover, BSc, DDS, MSD, MRCD(C)
ZM Pawliuk, DDS, MSc, FRCD(C)
JM Plecash, DDS, MSc, Dip Perio
PD Schuller, DDS, Dip Perio

Clinical Professors
RD Haryett, DDS, MSc, FRCD(C), FICD
BL Kuzyk, DDS, Cert Ped, MRCD(C), FASDC
DF Mulcahy, DDS
RP Mullen, BA, DDS, MSD, FRCD(C), FICD
DW Pettigrew, DDS, Dip Perio, PhD
GW Raborn, DDS, MS, FAGD, dip ABOM, FIAD, FAAHD

Associate Professors
HE ElBadrawy, MS, HDD, DDS
P Major, BSc, DDS, DipORTHO, MSC
J Theodore, BA, DDS - Joint appointment - two departments

Clinical Associate Professors
SR Alimchandani, BDS, Cert Pub Hlth, DDS, MSc
WN Chalk, BDS, LDS, RCS, DDS, MSc
DP Cheung, DDS, MSc
BL Kuzyk, DDS, Cert. Ped, MRCD(C), FASDC
RS Margolis, BA, DDS, FRCD(C), RCDC, LDS
MG Mills, DDS, Dip Ortho
EW Tunis, BSc, DDS, MSc

Assistant Professor
CG Petrikowski, BSc, DDS. Dip Oral Radiology

Clinical Assistant Professors
L Chan, BSc, DDS
RW Klippert, DDS
DR Kolotyluk, DDS
JW Mather, BA, DDS, BScD
WR Mather, DDS, BSc, FASA
D Matthews, DDS
H McLeod, BSc, DDS
JC McLean, BSc, DDS
ME Mickleborough, DDS, MSc, FRCD(C)
PL Pierce, DDS, Cert Perio
D Reeds, DDS
J Ritchie, Dip DHYG - Joint Appointment - two departments
C Robinson, DDS, MSc
TR Stevenson, BSc, DDS, MSC
B Walker, Dip DHYG - Joint Appointment - two departments
MP Wilson, Dip DHYG - Joint Appointment - two departments
CC Yu, DDS, CAGS, MScD, MRCD(C)

Clinical Instructors
P Allewell, DMD
C Fialka-Eshenko, BSc, DDS
D Hayashi, BSc, DDS
F Hui, BSc, DDS
E Jang, BSc, DDS
E Kucey, AA, AS, BSc, DDS
B Kuzyk, BSc, DDS
V Lee, NRSG Dip, BSc, DDS
J McDowell, BSc, DDS
P Puszczak, BSc, DDS, Dip ORTHO
JB Richens, DDS
JA Scott, BA, DDS
F Szojka, BSc, DDS
MT Taciuk, DDS
A Tam, DDS
P Wacko, BSc, DDS
WG Wesner, BSc, DDS - Joint Appointment - two departments
A Wong, BSc, DDS - Joint Appointment - two departments

Teaching Fellow
WD Preshing, BSc, DDS

61.1.5 Oral Biology

Professor and Chair
DM Paton, MBChB, MD, DSc, FRCPC, FRACP, FIBIOL

Professors
HM Dick, DDS, MSc, FRCD(C), FACD
LW Kline, BSc, MSc, PhD
G Machin (Honorary)
JW Osborn, LDS, RCS, BDS, FDS, FCS, PhD
PG Scott, BSc, PhD
GH Sperber, BSc, BDS, PhD, MS

Associate Professors
GK Hunter, BSc, PhD
WT McGaw, DDS, MSc, MRCD(C)
N Milos, BSc, PhD
E Peters, BSc, DDS, MSc
L Samaranayake, DDS, MRCPath

Assistant Professor
DJ Pehowich, BSc, MSc, PhD

61.1.6 Professors Emeriti

RV Blackmore, DDS, PhD
JM Calvert, DDS
AD Fee, DDS, MSc
SD Fraser, DDS, FACD

PD MacRae, DDS
RC McClelland, DDS, MSc
KA McMurchy, BA, DDS
GW Myers, DDS
CH Pearson, BSc, PhD
AJ Simons, LDS, DDS
WJ Simpson, DDS, MSc

61.2 Faculty Objectives

(1) To provide an academic and intellectual milieu in a University setting that facilitates all aspects of education and research in dentistry and allied health and scientific fields by:

a. attracting, selecting, and motivating the most qualified academic and non-academic staff;

b. creating a University environment that emphasizes the quality of life for staff and students.

(2) To contribute to the advancement of knowledge in dentistry and allied fields by doing research, publishing research papers, and communicating and interacting with:

a. other health sciences and other disciplines of the University in order to promote comprehensive health care;

b. the dental profession, dental auxiliaries, auxiliary-training programs, and the community in order to promote oral health;

c. basic and clinical science organizations and granting agencies in order to promote disciplinary and inter-disciplinary research.

(3) To graduate competent undergraduate dentistry students and dental hygienists, and graduate and post-graduate students by:

a. attracting, selecting, and then motivating the most suitable and well-qualified students who have the ability to acquire the education and training for a professional and/or academic career;

b. maintaining an undergraduate dentistry curriculum that integrates basic medical and dental sciences, behavior and social sciences, dental clinical sciences, community and preventive dentistry, hospital dentistry, and practice management; and incorporates recent concepts, materials, techniques, advances, and research in all areas; and reflects the existing and projected provincial, national, and international oral health needs;

c. maintaining a dental hygiene curriculum that produces a student who will complement the present and future dental-care-delivery system;

d. maintaining an educational program that allows for the smooth transition from graduation to practice and which ensures that the student is competent to practise in an efficient and responsible manner;

e. graduating students who are competent to assume a role of leadership and service in their profession and community.

(4) To provide the opportunity and stimulus for continued learning through post-graduate, graduate, research, and continuing education programs.

(5) To provide efficient and quality dental treatment for the community that emphasizes and recognizes the needs of the patient.

61.3 General Information

61.3.1 BSc Degree

Students registered in the DDS Program may apply for the BSc degree after successful completion of the first two years of the dental program.

61.3.2 DDS Degree

Dental education was instituted at The University of Alberta in 1917 in the School of Dentistry under the Faculty of Medicine. The first full degree program was offered in 1923, and the first class graduated in 1927. The School became the Faculty of Dentistry in 1944. Dental Auxiliary training was instituted in 1961. In 1962 the School of Dental Hygiene came into being and offered both the Dental Auxiliary and Dental Hygiene programs. A program of graduate studies was formally approved in 1962.

The following academic structure was approved in 1980 and modified slightly in 1982:

Department of Dental Health Care
Division of Community Dentistry
Division of Dental Hygiene
Division of General Practice

Department of Oral Biology
Division of Anatomy
Division of Biochemistry
Division of Pathology
Division of Physiology

Department of Restorative Dentistry
Division of Biomaterials
Division of Endodontics
Division of Fixed Prosthodontics
Division of Operative Dentistry
Division of Removable Prosthodontics

Department of Stomatology
Division of Diagnosis
Division of Oral & Maxillofacial Surgery and Hospital Dentistry
Division of Orthodontics
Division of Pediatric Dentistry
Division of Periodontics
Division of Radiology

Curriculum

The Faculty of Dentistry offers a four-year program of study leading to the degree of Doctor of Dental Surgery (DDS), following satisfactory completion (after senior matriculation) of at least two pre-professional years of university education. The pre-professional years provide the necessary background in inorganic chemistry, organic chemistry, biology, physics, the humanities, and social sciences.

In the dental curriculum, lecture and laboratory instruction in such fundamental subjects as Anatomy, Bacteriology, General Pathology, and Medicine, are offered by the respective departments of other faculties. The lectures, laboratories, seminars, and clinics offered by the Faculty of Dentistry relate and integrate these fundamental disciplines with the knowledge, skills, judgement, and performance required of the dental practitioner.

In addition to bedside and operating instruction in medicine and surgery, the senior students are assigned to the Dental Department and the Department of General Anaesthesia at the University Hospital. An experience in the General Practice Clinic, the Satellite Dental Clinic, and the Geriatric Youville Hospital is a requirement in the final year of the program. Thus students are afforded an opportunity to relate their field of health service to the science and art of preventing, curing, or alleviating disease in general.

Information on programs of graduate study and continuing education offered by the Faculty will be found in §§63.2, 63.4, and 63.5.

Library

The Medical Sciences reading room of the John W. Scott Health Sciences Library contains a comprehensive selection of reference materials and textbooks on dentistry and related subjects. In addition, it contains most current dental journals in English and other languages, and the Index to Dental Periodical Literature, an index to all dental periodicals since 1839.

61.3.3 MSc and PhD Degrees

(1) The Faculty of Dentistry has research laboratories and instructional facilities for a limited number of graduate students proceeding to the Master of Science degree; it also offers programs leading to the degree of Doctor of Philosophy.

(2) Dental graduates may undertake graduate programs in either oral biology or clinical science. Students without dental qualifications, holding a BSc degree in biological or physical science, are eligible for graduate study; however, science students accepted into the PhD program will normally hold the equivalent of a 4 year (Honors) BSc degree.

(3) The research interests of the staff include: Anatomy: human growth and development, embryonic induction of dental tissues and organs. Biochemistry: structure, crosslinking of collagen, connective tissue research and calcification. Oral Pathology: immunology and oral tumors. Physiology: neuromuscular function. Public Health and Community Dentistry: health care, delivery systems, administration of public health programs. Clinical Dentistry: studies in diagnosis and clinical trials. Biomaterials: fluoride, physical properties of dentine, evaluations of dental materials.

(4) Fellowships and Assistantships are available. Applications can be submitted to the Director, Division of Graduate Studies and Research.

(5) More detailed information can be obtained from the Director, Division of Graduate Studies and Research.

61.3.4 Dental Hygiene Diploma

The Faculty of Dentistry offers a Diploma in Dental Hygiene. The objective of the Dental Hygiene Program of Study is to facilitate the student's acquisition of knowledge and development of skills and attitudes so that they will be able to assume positions of responsibility in private dental practice or community health care settings.

The dental hygienist is an integral member of the health care team who strives to improve oral health by providing preventive and educational services to the public. Clinical dental hygiene services may include assessing patients' health status, inspecting hard and soft tissues of the oral cavity, removing deposits and stain from teeth, exposing and developing dental radiographs, applying topical fluorides, taking impressions to study models and polishing amalgam restorations. Educational and management services for individuals and groups may include nutritional and oral hygiene counseling and community dental health program planning, implementation and evaluation.

The Dental Hygiene curriculum includes courses from the Faculties of Arts and Medicine. Dental Science faculty from other clinical and basic science departments provide lectures and instructional assistance in clinic and classroom. During second year students participate in field experiences in a variety of community settings such as hospitals, schools, and facilities for the handicapped, chronically ill, and aged. An experience in the Satellite Dental Clinic is a requirement.

The Dental Hygiene Program is approved by the Councils of Dental Education of the Canadian Dental Association and of the American Dental Association. Successful students in the Dental Hygiene Program are encouraged to write the National Board Dental Hygiene Examinations of the American Dental Association.

Further details may be obtained from the Chairman, Division of Dental Hygiene, Faculty of Dentistry.

61.3.5 MSc Degree and Certificate in Orthodontics

The Faculty of Dentistry offers a postgraduate program designed to prepare dental graduates for specialty certification in orthodontics. Further details may be obtained from the Director, Graduate Studies and Research, Faculty of Dentistry.

61.4 Registration and Licensing

61.4.1 DDS Degree

The Faculty of Dentistry of the University of Alberta is approved by the Canadian Dental Association and the American Dental Association.

Graduates in dentistry from the University of Alberta may register in the Province of Alberta upon payment of a licensing fee without further examination.

Regulations regarding the practise of dentistry in any of the other provinces in Canada may be obtained by writing to the Dental Registrar of that province:

Alberta
Alberta Dental Association
#101, 8230-105th Street
Edmonton, Alberta
T6E 5H9

British Columbia
College of Dental Surgeons of British Columbia
1125 West 8th Avenue
Vancouver, British Columbia
V6H 3N4

Manitoba
The Manitoba Dental Association
308 Kennedy Street
Winnipeg, Manitoba
R3B 2M6

New Brunswick
New Brunswick Dental Society
440 Champlain Street
Saint John West, New Brunswick
E2M 1R9

foundland
lewfoundland Dental Association
03 LeMarchant Road
t John's, Newfoundland
1C 2H5

a Scotia
lova Scotia Dental Association
2-5880 Spring Garden Road
lalifax, Nova Scotia
3H 1Y1

rio
he Royal College of Dental Surgeons of Ontario
30 St George Street
oronto, Ontario
5R 2N5

e Edward Island
ental Association of Prince Edward Island
39 Water Street
ummerside, Prince Edward Island
1N 1B4

ec
rder of Dentists of Quebec
te. 303, 801 est, rue Sherbrooke,
lontreal, Quebec
2L 1K7

atchewan
ollege of Dental Surgeons of Saskatchewan
09, 514-23 Street, East
askatoon, Saskatchewan
7K 0J8

raduates of approved Dental Schools are eligible
istration with the National Dental Examining Board
nada upon submission of an application, dated not
han March 30th of the year of graduation (subject
unge). Failure to apply by that date will entail the
g of an examination in order to receive the
cate. Applications may be obtained from the Dean's

raduates are also eligible to write licencing exami-
s in most of the states in the United States and the
nations of the National Board of Dental Examiners
American Dental Association.
he Doctor of Dental Surgery (DDS) degree and the
r of Dental Medicine (DMD) degree (granted by
Canadian and United States universities) are
alent degrees.

.2 Dental Hygiene Diploma

diploma from the dental hygiene program does
n itself, confer the right to practise. A dental
ist desiring to practise dental hygiene in Canada
consult the appropriate provincial licencing body
ed below:

rta
niversities Coordinating Council
ofessional Examinations Office
ark Plaza
03, 10611-98 Avenue
dmonton, Alberta
6K 2P7

sh Columbia
egistrar
ollege of Dental Surgeons of British Columbia
25 West 8th Avenue
ancouver, British Columbia
6H 3N4

toba
egistrar
he Manitoba Dental Association
08 Kennedy Street
innipeg, Manitoba
3B 2M6

Brunswick
egistrar
ollege of Dental Surgeons of New Brunswick,
0 Champlain Street
int John, New Brunswick
2M 1R9

oundland
egistrar
ewfoundland Dental Association
ampbell Building, 203 LeMarchant Road
John's, Newfoundland
C 2H1

Nova Scotia
Registrar
Provincial Dental Board of Nova Scotia
1548 Robie Street
Halifax, Nova Scotia
B3H 3E6

Ontario
Registrar-Secretary
Royal College of Dental Surgeons of Ontario
230 St George Street
Toronto, Ontario
M5R 2P1

Prince Edward Island
Registrar
The Dental Association of Prince Edward Island
239 Water Street
Summerside, Prince Edward Island
C1N 1C1

Quebec
Professional Corporation of Dental Hygiene of Quebec
5757 Decelles Street, #237
Montreal, Quebec
H3S 2C3

Saskatchewan
Registrar
The College of Dental Surgeons of Saskatchewan
Suite 109, 514-23rd Street East
Saskatoon, Saskatchewan
S7K 0J8

Dental Hygienists are employed at all times under the supervision or direction of a fully qualified dentist.

61.5 Finance

61.5.1 DDS Degree

An estimated budget for dental students

No student will be allowed to purchase a kit without the permission of the Faculty.

	Year 1	Year 2
Tuition and Fees	$2,000	$2,000
Books	1,000	900
Dental kits	5,900	3,900
Dental Students Association	82	82
	Year 3	**Year 4**
Tuition and Fees	$2,000	$2,000
Books	300	100
Dental Kits (Instruments)	400	300
Dental Students Association	82	82
NBDE (American) Examinations	—	70
NDEB (Canadian) Examinations	—	380

61.5.2 MSc and PhD Degrees

For information regarding graduate program fees, see §15 of this Calendar.

61.5.3 Dental Hygiene Diploma

Approximate Costs

	Year 1	Year 2
Tuition and Fees	$1,466	$1,466
Books	750	500
Dental Hygiene Kits	1,403	1,555

Uniforms: The student will be expected to have a lab coat, one uniform, a pair of white oxfords, safety glasses and/or prescription glasses. The lab coat, uniform, shoes, and safety glasses will be purchased under the direction of the program.

Field Experiences: Students are responsible for their own transportation to and from field experiences which are scheduled in the Edmonton area.

61.5.4 MSc Degree and Certificate in Orthodontics

For information regarding post-graduate and graduate program fees, contact the Director of Graduate Studies and Research, Faculty of Dentistry.

Approximate Cost (books, instruments, supplies)

First year	$2,500
Second year	$500

62 Faculty Regulations

62.1 Admission

62.1.1 DDS Degree

(1) **Academic requirement.** The basic requirement for admission to the Faculty of Dentistry is the satisfactory completion (after senior matriculation) of at least two full years (i.e. 60 units of course weight) of university work (30 of these units of course weight must be taken during one Winter Session), including six units of course weight in university courses in organic chemistry, inorganic chemistry, physics, and biology. Students completing these pre-professional requirements at the University of Alberta must include in their programs the following:

a. CHEM 100, 104 or 204

b. CHEM 160 or 260

c. Two of BIOL 100, GENET 197, MICRB 193, or ZOOL 120

d. PHYS 105 and 106 or PHYS 141 and 143

e. Six units of course weight in English (ENGL 101 or equivalent).

The requirement can be met in various patterns in different faculties. Students are urged to take the program that they find most interesting, and that will still give them these prerequisites. For information, the Registrar should be consulted. Applicants having sequential high school background courses in English, Biology, Chemistry, Mathematics, and Physics will best be prepared to succeed in the two-year predental program.

(2) **Dental Aptitude Test:** Each applicant will be required to take the Canadian Dental Association Aptitude Test. The dental aptitude test is an important component in the selection process. If the test is taken more than once the better set of scores will be used. It is up to each applicant to decide whether or not the test should be re-taken. Information and application forms are available from the Admissions Office, Faculty of Dentistry.

(3) **Personal Interview:** Although scholarship is a prime criterion, admission cannot be guaranteed on the basis of academic standing alone. Before acceptance, an applicant will be interviewed by a team to determine if he/she possesses the personal qualities necessary for the profession. The interview is designed to evaluate an applicant's degree of maturity and motivation, initiative, ability to communicate, and personal qualities and interests. Candidates will be advised of the interview dates. An interview in subsequent years of application may not be required unless the student and/or Faculty requests same.

(4) **Final Selection:** Applicant profiles are made up of:

a. the cumulative academic average

b. an average of the grades of the applicable Science courses*

c. the dental aptitude test scores

d. the interview scores

*Applicable science courses are: Anatomy, Biochemistry, Biology, Chemistry, Genetics, Microbiology, Pharmacology, Physics, Physiology, Psychology, and Zoology.

Minimum criteria are established for each of the above factors. An applicant who falls below the minimum in any one of the factors will not be considered for admission.

For applicants who have completed four or more years of University, the cumulative (academic) average is calculated with the deletion of the lowest annual average, provided it is not the most recent year. Any applicable sciences taken during the deleted year are included in the calculation of the science average.

In order to be competitive, candidates should strive for an overall and applicable sciences GPA of 7.0 to 7.5 in the university studies. Students with an academic profile of less than 6.5 GPA in the overall and/or applicable sciences average will not be considered.

(5) **Residence Requirements:** A minimum of 5% foreign students and 10% non-Alberta Canadians may be accepted providing that no non-resident of Alberta is admitted who is less qualified than any Alberta resident who is denied admission. The

remaining 85% may be reserved for Canadian citizens who are residents of Alberta or of the Northwest Territories or Yukon.

(6) **Application Deadline:** All candidates for admission to the first year of study in the Faculty of Dentistry are required to make application on or before February 1 of the year in which admission is sought. The earliest date for filing such applications is September 30 of the previous year.

(7) **Limitation of Enrollment:** Enrollment is limited to the number of students who can be accommodated.

(8) **Deposit:** Upon notification of acceptance successful applicants will be required to confirm their intention to register by submitting a non-refundable $50.00 deposit within a specified time. The deposit will be credited toward payment of tuition upon completion of registration.

(9) **Changes in Registration:** The last day for changes in registration will be that date designated in §11 of this Calendar.

(10) The Admissions Committee reserves the right to use its judgement with respect to individual cases. For example, in some instances, certain candidates such as applicants who have had extensive university education or have had extensive previous work experience in areas acceptable to the Admissions Committee may be given special consideration. Less weight may be given to the minimum criteria established for any one of the factors identified for admission. Applicants will normally be expected to have completed the prerequisite courses in chemistry, physics and biology or their equivalent, the Dental Aptitude Test and the interview.

(11) Applicants are reminded of the regulations set out in §13.1.2 of this Calendar. Admission will normally be refused to an applicant who has had to write what the Faculty considers an inordinate number of examinations in order to attain the nominal entrance requirements of the University.

(12) A dental examination is required of all accepted candidates.

(13) **Hepatitis "B" Vaccine:** It is strongly recommended that all applicants obtain a hepatitis "B" vaccine prior to entry.

(14) Candidates seeking any other advice with respect to matters related to admissions should contact the Admissions Officer, Faculty of Dentistry (492-2945).

(15) **English Language Proficiency:** English is the primary language of instruction in all faculties except Faculté Saint-Jean, where French is the primary language. Therefore, all applicants to undergraduate faculties other than Faculté Saint-Jean must possess an adequate knowledge of written and spoken English as a prerequisite to admission. For example, non-matriculated applicants and unclassified program students must comply with the requirement along with other applicants.

Applicants to Faculté Saint-Jean need not demonstrate proficiency in English prior to admission being granted. However, they must demonstrate proficiency in English before they may be granted a degree from this institution.

Regardless of country of origin or citizenship status, all applicants except for Faculté Saint-Jean will be required to demonstrate proficiency in the English language prior to admission. This demonstration may take any one of several forms:

a. Six full years of education in English in Canada or the equivalent in another country where English is the principal language. Such education must include the Alberta Grade 12, or equivalent level, and can be in a combination of secondary and post-secondary training.

b. Successful completion of the equivalent of six years of full-time instruction in a school/institution in Alberta in which the major language of instruction is other than English, but where the level of English proficiency required for graduation is equivalent to that in English language schools/institutions in Canada.

c. A grade of 80% or better on the diploma examination portion (only) of the Alberta English 30 course, or a grade of 6 or 7 on the International Baccalaureate Higher Level English course, or a grade of 5 on the Advanced Placement English (Language Composition: Literature and Composition) course.

d. Graduation from a degree program offered by an accredited university at which English is the primary language of instruction and in a country where English is the principal language.

e. A score of at least 580 on the Test of English as a Foreign Language (TOEFL) or a score of at least 90 on the Michigan English Language Assessment Battery (MELAB). The TOEFL results must include a score of at least 50 on each of the three components.

Note: Authority to hear petitions and to waive the requirement for undergraduate applicants to write the TOEFL resides with the Registrar acting on behalf of the faculties. Exemptions will be based on assessments of the applicants' English language proficiency as evidenced by a written petition and a personal interview. Please direct enquiries and petitions to the Associate Registrar, Admissions.

f. **Test of Spoken English (TSE):** All applicants who are required to submit the results of the TOEFL must also submit the results of the TSE with a minimum score of 200. For further information contact the Examinations and Timetabling Division of the Registrar's Office, Room 120, Administration Building, University of Alberta.

Further information is available from the Schedules Division, Office of the Registrar, Room 120, Administration Building. TOEFL application forms are available from the Student Access Centre, Office of the Registrar, Administration Building; or by writing directly to Educational Testing Service, Princeton, New Jersey, USA, 08540.

(16) **Aboriginal Applicants:** In addition to the regular quota positions, one additional position per year is available in the DDS program for a qualified student of Aboriginal ancestry, within the meaning of the Constitution Act of 1982, Section 35, Part 2. Applicants interested in this program are encouraged to contact the Admissions Officer, Faculty of Dentistry.

62.1.2 Postgraduate Training in Dentistry as Interns and Residents

Interns and residents in the Department of Dentistry in the University of Alberta Hospitals are registered as students in the Division of Postgraduate Medical Education in the Faculty of Medicine. See §123.6 of this Calendar.

62.1.3 MSc and PhD Degrees

The requirements for admission as a graduate student are:

(1) A baccalaureate degree, with a grade point average of at least 6.0 in the work of the last two undergraduate years at the University of Alberta, or an equivalent qualification from another institution; and

(2) A statement from the chair of the department concerned to the effect that the applicant is, in all respects, acceptable to the department. A special graduate student or an exchange graduate student, however, not being a candidate for a degree, does not require department recommendation.

(3) All non-Canadians for whom English is not the major language (a) first must write and pass satisfactorily either the Michigan English Language Examination (The Director, Testing and Certification Division, English Language Institute, The University of Michigan, Ann Arbor, Michigan 48104, U.S.A.) or the Test of English as a Foreign Language (TOEFL Educational Testing Service, Princeton, New Jersey 08540, U.S.A.) before formal admission can be given; and (b) in addition, if formally admitted, must arrive on campus and write, one week before registration, an English Language Examination set and administered by The University of Alberta. Students whose performance is unsatisfactory in this English Examination will be allowed to continue their graduate work, but may be required to take English language instruction as part of their regular program.

Application for admission to the Faculty must be submitted on forms supplied by the Office of Graduate Studies and Research, Faculty of Dentistry. No assurance can be given that applications received after August 1 (for First Term, Winter Session), November 1 (for Second Term, Winter Session); March 1 (for Spring Session) or April 1 (for the Summer Session) can be processed in time to permit registrations in that session. Refer to §62.1.5. A graduate of another university must arrange with the Registrar of that institution to forward two transcripts of his/her academic record to the Direct Graduate Studies and Research, Faculty of Den prior to these dates. The Dean may require the appl to furnish an official description of the content o courses listed on the transcripts.

62.1.4 Dental Hygiene Diplom

(1) **Academic Requirements:** A student applyin admission to the Dental Hygiene Program, present Chemistry 30, Biology 30, and Englis (or equivalents): and two of the following: M matics 30; Mathematics 31; Physics 30; S Studies 30; Language (other than English) at t level (or equivalents).

(2) **Non-Matriculated Applicants:** Persons 24 yea age or older who do not meet regular matricul requirements may, in certain circumstances, re special consideration. Non-matriculated applic to the Dental Hygiene Program must present Cher 30, Biology 30 and English 30, or equivalen these courses, with a 65% overall average an less than a 50% grade in any single course; must be a resident of Alberta. In order t competitive, it is recommended that non-matricu applicants present a minimum average of 75 higher on the three academic subjects listed ab Non-matriculated applicants should also se letter to the Hygiene Admissions Office givi brief biography of themselves including their experience, their background and telling of preparations for attending university.

(3) **Personal Interview:** Applicants will be intervi by a team to determine if they possess the pers qualities necessary for the profession. The inte is designed to evaluate an applicant's degre maturity and motivation, initiative, ability to cor nicate and personal qualities and interests. interview schedule differs from year to year, t fore, competitive candidates will be advised c interview dates.

(4) **English Language Proficiency:** See §62.1. which describes the University's English Lang Proficiency requirement.

(5) **Application Deadline:** All candidates for admi to the Dental Hygiene Program are require make application on or before February 1 o year in which admission is sought. The earliest for filing such applications is September 30 c previous year.

(6) **Application for Admission:** The completion candidates file at an early date may result i candidate's acceptance in the Dental Hygiene gram prior to the August Admissions Comm meeting. A file is considered complete whe following have been received: application for admis official transcript of prior academic work, per interview. Files where official transcripts hav been received by August 1 of any year will n considered by the Admissions Committee.

(7) **Final Selection:** Applicant profiles are made u

a. Academic standing

b. Interview results

Minimum criteria are established for each above factors. An applicant who falls belov minimum in any one of the above factors will n considered for admission.

(8) Applicants who present a high school avera less than 70% or a post-secondary applicant prese a GPA of less than 6.0 will not be considere admission.

Applicants who present less than 30 un course weight at a university level will be ca rized with applicants applying directly from school and will be ranked according to high s grades.

Applicants presenting 30 units of course w of university-level courses during one winter ses will be assessed on the basis of post-secoi grades. Courses such as activity courses, s courses, and practicum courses will not be cc ered as part of the required 30 units of cr weight. High school grades will not be used than to confirm that the applicant has the app ate high school courses required for admissio

For applicants who have completed fou years, or more, of university, the cumulative demic) average is calculated with the deletion lowest annual average provided it is not the recent year.

(9) **Limitation of Enrollment:** Enrollment is limit the number of students who can be accommod

(10) **Dental Examination:** All accepted candidates are required to have a dental examination form (available from the Registrar's Office or from the Dental Hygiene Office) completed by a dentist and returned to the Admissions Officer during the week of registration.

(11) **Hepatitis "B" Vaccine:** It is strongly recommended that all accepted applicants obtain a hepatitis "B" vaccine prior to entry.

(12) **Notification of Acceptance:** The Admissions Committee meets about August 1 to consider all applications for admission to the Dental Hygiene Program. During the following week, all applicants will be informed of the decision on their application - namely, accepted, waiting list, or not accepted. Applicants in the category of accepted or waiting list must reply by return mail, signifying their decision to accept or refuse the position of their application in the Dental Hygiene Program. Upon notification of acceptance successful applicants will be required to confirm their intention to register by submitting a non-refundable $50.00 deposit within a specified time. The deposit will be credited toward payment of tuition upon completion of registration.

Students should not come to the University until they have received an official acceptance of their application.

For further, more detailed information, consult §§13.2 and 13.4.4 of this Calendar.

(13) **Aboriginal Applicants:** In addition to the regular quota positions, one additional position per year is available in the Dental Hygiene program for a qualified student of Aboriginal ancestry, within the meaning of the Constitution Act of 1982, Section 35, Part 2. Applicants interested in this program are encouraged to contact the Admissions Officer of the Division of Dental Hygiene, Faculty of Dentistry.

62.1.5 MSc Degree and Certificate in Orthodontics

The normal closing date for receipt of applications is October 15. No assurance can be given that late applications can be processed in time for registration in the following academic year. Application is made to the Director of Graduate Studies and Research, Faculty of Dentistry.

62.2 Academic Standing

62.2.1 DDS Degree

(1) In the first and second year of the Dentistry Program all course requirements in the year must be met in order to be eligible for promotion. A third-year student may, at the discretion of Faculty Council, be promoted with a course deficiency when all of the following apply:

a. the deficiency is in a single clinical course;

b. there is no provision for remediation and re-evaluation in the course;

c. the student's overall GPA for the year is 6.0 or better.

A student promoted with a deficiency will be required to meet all normal course requirements in the fourth year of the Program in order to be eligible for graduation.

(2) Students will be required to pass both the practical and the theoretical examinations of any course having a practical and theoretical component.

(3) Course grades of 3, 2, and 1 are failing grades. A grade of 4 is a conditional pass and will permit a student to meet promotion/graduation requirements when:

a. the student's overall GPA is 5.5 or better;

b. the combined course weight in which grades of 4 are achieved does not exceed 20% of the total course weight in the program year; and

c. satisfactory course standing is approved by Dentistry Faculty Council. Notwithstanding (b) above, Faculty Council may deny a student promotion/graduation when grades of 4 are achieved in critical subjects and/or when reexaminations are not available.

(4) **Reexaminations**

a. Students in the DDS program may be permitted a reexamination at the discretion of the Dentistry Faculty Council provided that:

1) The student's GPA is 5.0 or greater.
2) The weight of the final examination is 40% or higher.

b. If a reexamination is approved the following policies apply:

1) The reexamination will have the same percentage value as the original final examination. However, a greater value may be assigned at the discretion of the department concerned.

2) Regardless of the reexamination result, the final grade may not exceed a grade of 6. The reexamination results will not alter the student's class standing.

3) In any one year, reexamination privileges will not exceed a combined maximum of 10 units of course weight, or a total of three reexaminations regardless of the units of course weight.

4) Over the total program, reexamination privileges will not exceed a combined maximum of 20 units of course weight, or a total of 5 reexaminations regardless of units of course weight.

5) Any student who, after reexamination and/or evaluation, fails to meet promotion/graduation requirements will be deemed to have failed the year. (See §62.2.1(4)).

c. Reexaminations are not allowed in the following instances:

1) Reexaminations are not available in laboratory or clinical courses.

2) Repeating students will not be permitted a reexamination in the repeating year.

d. First and second year Dentistry students will take the reexamination in the first week of July (application deadline is June 20).

Third and fourth year students can write the reexamination during Reading Week for first-term courses (application deadline is January 20), and during the first week of July for second- term or full-term courses (application deadline is June 20).

Students requesting a reexamination must follow the procedures detailed in §16.5.4 of this Calendar.

(5) Normally, a failed student will retain no credits towards the DDS degree for any courses in the failed year. A failed student in the final year of the program who is designated a Special Category repeating student may retain Faculty approved course credits towards the DDS degree.

(6) Students will be permitted to repeat first-year Dentistry only in circumstances determined to be exceptional by the Council of the Faculty of Dentistry. Normally, a first-year Dentistry student permitted to repeat the failed year will be required to withdraw for one year before continuing in the program. Repeating students will be considered for awards and, with the exception of repeating Special Category fourth year Dentistry students, will be given a class standing.

(7) A student permitted to repeat a failed year, who does not achieve a grade-point average of 5.5 at the end of the first and second terms of the repeated year, will be required to withdraw from the program. A repeating student will not be permitted to carry a reduced academic load.

(8) **Course Exemptions:** Students in the dentistry program are not permitted to carry a reduced academic load but when eligible may be permitted course substitutions. Applications for course substitutions must be made to the Chair of the Academic Standing Committee.

(9) A Special Category repeating fourth year dentistry student is one who meets the following criteria:

a. has achieved a minimum GPA of 6.0 in the fourth year program.

b. has clinical deficiencies in no more than two clinical courses and the appropriate Division Chairmen advise that the deficiency could be corrected within a four month period of instruction.

c. has successfully completed all written examinations in the DDS program.

(10) **Faculty Adviser:** At the discretion of the Academic Standing Committee, a Faculty Adviser may be assigned to students who are having difficulty meeting promotion requirements. The method of assignment and role of the Faculty Adviser shall be determined from time to time by the Dentistry Faculty Council.

(11) All students registered in the Faculty of Dentistry are required by Provincial legislation to be registered in the Educational Register of the Alberta Dental Association. This registration permits the practice of dentistry within the confines of the formal dental curriculum.

62.2.2 MSc and PhD Degrees

Except in a qualifying year, the pass mark in any course taken for credit towards an advanced degree is a grade of 6. Grades of 5 may be accepted in two single-term courses or one full-session course provided a minimum average of 6.0 is acquired at the time of completion of work for the degree. In this connection the student should keep in mind that courses are weighted differently. Thus a grade of 7 in a session or term course does not necessarily bring one's average up to 6.0 if a grade of 5 was received in another course which carried a greater weight. In a qualifying year, a grade of 4 or 5 may be accepted in an individual course, provided that the grade point average for the year's work is at least 6.0. (Note: The above are minimum grades which the Faculty will accept. Individual departments may require higher grades than these.) A grade of 4 obtained by Probationary, Special, or Exchange Graduate Students will be recorded as a failure.

Graduate students are not permitted to take reexaminations. If, after consulting the department or the committee concerned, the Faculty decides that a graduate student is not making satisfactory progress in either course work or research, the student may be required to withdraw. For further information see §202.7 of this Calendar.

62.2.3 Dental Hygiene Diploma

In addition to the regulations set out in §16 of this Calendar, the following apply to students in the Dental Hygiene Program:

(1) Alberta certification in CPR (Cardiopulmonary Resuscitation) at the Basic Rescuer Level is required prior to entry into second year Dental Hygiene.

(2) Students entering the first year of the Dental Hygiene Program may be granted credits for the following courses on submitting acceptable proof of course completion to the Chair of the Academic Standing Committee:

a. English (six units of course weight in a junior course required)

b. SOC 100

c. PSYCO 104

d. Students who graduated from the NAIT or SAIT Dental Assisting Technology Program within 24 months of admission to the Dental Hygiene Program may be granted credit in D HYG 210 (Dental Auxiliary Practice I) and may apply to do a Credit by Special Assessment examination in D HYG 240 (Radiography I).

e. Students who graduated from the NAIT or SAIT Dental Assisting Technology Program, regardless of year of graduation may apply to do a Credit by Special Assessment examinations in the courses listed in d.

f. In addition to d. and e. students who graduated prior to September 1988 from the SAIT Dental Assisting Technology Program may apply to do a Credit by Special Assessment examination in MMID 422.

Students with approved course exemptions may elect to take an approved option or carry a reduced academic load. Students carrying a reduced academic load exceeding a total of six units of course weight will not be eligible for awards and will not be given class standing. Dental Hygiene students who have not received approved credit in any or all of the above courses will be required to take them as an integral part of the first year Dental Hygiene Program without course withdrawal privileges.

(3) Recommendations for promotion and graduation will be on the basis of a grade of at least 4 in each subject and a grade point average of at least 5.0.

(4) **Reexaminations:**

a. Students in the Dental Hygiene program may be permitted a reexamination at the discretion of the Dentistry Faculty Council, provided that:

1) The student's GPA is 5.0 or greater.

2) The weight of the final examination is 40% or higher.

b. If a reexamination is approved, the following policies apply:

1) The reexamination will have the same percentage value as the original final examination. However, a greater value may be assigned at the discretion of the department concerned.

2) Regardless of the reexamination result, the final course grade may not exceed a grade of 6. Reexamination results will not alter the student's class standing.

3) In any one year, reexamination privileges will not exceed a combined maximum of six units of course weight, or a total of two reexaminations regardless of units of course weight.

4) Over the total program, reexamination privileges will not be granted to exceed a combined maximum of nine units of course weight or a total of three reexaminations regardless of combined units of course weight.

5) Any student who, after reexamination and/or evaluation fails to meet promotion/graduation requirements will be deemed to have failed the year. (See §62.2.1(4)).

c. Reexaminations are not allowed in the following instances:

1) Reexaminations are not allowed in laboratory or clinical courses.

2) Repeating students will not be permitted a reexamination in the repeating year.

d. First year Dental Hygiene students will take the reexamination as scheduled in the first week of July (application deadline is June 20). Students in second year will write after the end of the first term for first term courses (application deadline is January 20), and during the first week of July for second or full term courses (application deadline is June 20).

Students requesting a reexamination must complete the procedures detailed in §16.5.4.

(5) Students will be permitted to repeat First Year Dental Hygiene only in exceptional cases as determined by the Council of the Faculty of Dentistry. A first year Dental Hygiene student permitted to repeat the failed year will be required to wait out one year before continuing in the program. Repeating students will be considered for awards and will be given a class standing.

(6) Students seeking readmission after having been required to withdraw from the program will have their application for readmission considered in competition with all other applicants by the Admissions Committee.

(7) A student who is permitted to repeat the first year of the Dental Hygiene Program will retain no credit towards the Diploma in Dental Hygiene or any course in the year, except those in which exemption was previously granted, and in SOC 100, PSYCO 104, and the full term junior English courses when passing grades were achieved.

A student who has failed the final year of the program may retain Faculty approved course credits towards the Diploma in Dental Hygiene, but all course credits will be withheld until satisfactory standing is achieved in all courses.

(8) A student permitted to repeat the first year who does not achieve a grade-point average of 5.5 at the end of the first and second terms of the repeated year will be required to withdraw from the program.

(9) **Faculty Adviser:** At the discretion of the Academic Standing Committee, a Faculty Adviser may be assigned to students who are having difficulty in meeting promotion requirements. The method of assignment and the role of the Faculty Adviser shall be determined from time to time by the Dentistry Faculty Council.

62.2.4 MSc Degree and Certificate in Orthodontics

Regulations are as shown for MSc or PhD degrees, see §62.2.2.

62.3 Appeals and Grievances

A student adversely affected by the Academic Standing Regulations (§62.2) may file a formal appeal with the Dean, stating the basis of the appeal in writing and in detail, and indicating clearly the relief sought. The Dean will then place the issue before the Executive Committee of the Council of the Faculty of Dentistry which shall elect an 'Ad Hoc' Appeals Committee of five academic members from the Faculty of Dentistry and one student from the appropriate program (Dentistry or Dental Hygiene). One of the elected Faculty members shall be designated as the Chair of the Committee.

Procedural guidelines for the Faculty Appeals Committee are those approved by the Dentistry Faculty Council, a copy of which may be obtained from the Office of the Dean.

The deadlines for receipt of notice of intent to appeal are June 30 of the academic year in question when the Faculty Council decision being appealed is based on final examination results, and September 15 when the decision is based on supplemental examination results.

In the event of an unsuccessful appeal, a student may go to the Academic Appeals Committee of General Faculties Council (See §16.8 of this Calendar). Notice of intent to appeal will be filed with the Graduate Faculty Council Secretary within thirty days of the Faculty Appeals Committee decision.

62.3.1 MSc and PhD Degrees

Student grievances of an academic nature sometimes arise. If this occurs, students in the Faculty of Graduate Studies and Research are advised to first contact the instructor concerned from whom, in most cases, satisfactory explanations will be obtained. If the matter is not resolved, students are advised to see the Department Chair and the Dean of the Faculty of Graduate Studies and Research, in that order.

For further information regarding Appeals Procedures at the Faculty level the student should seek the advice of the Dean.

For further information related to Appeals and Grievances, students are directed to §16.8 and §202.15 of this Calendar.

62.4 Professional Standards

The University Code of Student Behavior describes a range of non-academic and academic offences which are deemed unacceptable and for which a student may be penalized. Additionally, the Faculty of Dentistry has filed with the Campus Law Review Committee a list of offenses which represent gross professional misconduct. The Faculty of Dentistry will act to initiate the most severe penalty permissible within the Code where a student has been found to be guilty of gross professional misconduct.

63 Programs of Study

63.1 DDS Degree

The courses prescribed for the degree program 1990-91 are listed below for each of the four years of the program. The format is as follows: the first position indicates total lecture hours per term; the second position indicates total clinic hours per term; and the third indicates total laboratory hours per term. In §64, Details of Courses, they are grouped by subject area.

	Term 1 (total hrs)	Term 2 (total hrs)
First Year		
ANAT 412 (Gross Anatomy) ★5.5	—	63-0-44
ANAT 413 (Cell Biology) ★6	65-0-25	—
ANAT 419 (Neuromanatomy) ★2	—	30-0-0
MMID 422 (Bacteriology) ★2.5	28-0-10	—
DENT 301 (Oral Histology) ★3	—	45-0-0
DENT 302 (Ontogeny & Phylogeny) ★1.5	22-0-0	0-0-0
DENT 304 (Biochemistry) ★4	30-0-0	30-0-0
DENT 306 (Human/Oral Physiology) ★6	45-0-0	45-0-0
DENT 309 (Material Sciences) ★1	15-0-0	—
DENT 310 (Dental Anatomy) ★2	19-0-30	—
DENT 311 (Occlusion) ★1	—	15-0-0
DENT 312 (Occlusion) ★1.5	—	0-0-45
DENT 317 (Operative Dentistry) ★2	15-0-0	15-0-0
DENT 318 (Operative Dentistry) ★3	0-0-45	0-0-45
DENT 321 (Removable Prosthodontics) ★2	15-0-0	15-0-0
DENT 322 (Removable Prosthodontics) ★2	—	0-0-60
DENT 326 (Periodontics) ★1	—	15-0-0
DENT 327 (Periodontics) ★1	—	0-30c-0
DENT 332 (Diagnosis) ★1	16-6c-0	—
DENT 334 (Radiology) ★1	—	15-0-0
DENT 340 (Community Dentistry) ★2	30-0-0	0-0-0
DENT 341 (Preventive Dentistry) ★1	15-0-0	—
DENT 347 (Communications) ★1	—	15-0-0
Second Year		
PATH 422 (General Pathology) ★3	45-0-16	—
DENT 355 (Oral Pathology) ★4.5	—	52-0-18
DENT 357 (Pharmacology) ★5	45-0-0	30-0-0
DENT 359 (Dental Materials) ★2	30-0-0	—
DENT 363 (Fixed Prosthodontics)★2	15-0-0	15-0-0
DENT 364 (Fixed Prosthodontics)★3	0-0-45	0-0-45
DENT 365 (Endodontics) ★1	15-0-0	—
DENT 366 (Endodontics) ★2	—	0-0-66
DENT 367 (Operative Dentistry) ★2	15-0-0	15-0-0
DENT 368 (Operative Dentistry) ★4.5	0-0-90	0-45c-0
DENT 371 (Removable Prosthodontics) ★2	25-0-0	5-0-0
DENT 372 (Removable Prosthodontics) ★5	0-0-72	0-72c-0
DENT 376 (Periodontics) ★2	15-0-0	15-0-0
DENT 377 (Periodontics) ★2.5	0-22c-0	0-45c-0
DENT 378 (Pediatric Dentistry) ★1	—	15-0-0
DENT 379 (Pediatric Dentistry) ★1.5	—	0-0-45
DENT 380 (Orthodontics) ★2	15-0-0	15-0-0
DENT 382 (Diagnosis) ★1	—	10-0-0
DENT 383 (Diagnosis) ★0.5	0-6c-0	0-6c-0
DENT 384 (Radiology) ★1	15-0-0	—
DENT 385 (Radiology) ★1	0-0-12	0-0-12
DENT 386 (Anaesthesia) ★1	15-0-0	—
DENT 387 (Anaesthesia) ★0.5	0-0-14	—
DENT 394 (Nutrition) ★2	25-0-0	—
DENT 396 (Ethnics and Dentistry) ★1	15-0-0	—
Third Year		
DENT 401 (Dental Therapeutics) ★1	—	15-0-0
MED 434 (Medicine) ★1	—	15-0-0
DENT 413 (Fixed Prosthodontics) ★2	15-0-0	15-0-0
DENT 414 (Fixed Prosthodontics) ★4.5	0-45c-0	0-75c-0
DENT 415 (Endodontics) ★1	15-0-0	—
DENT 416 (Endodontics) ★2	0-39c-0	0-21c-0
DENT 417 (Operative Dentistry) ★1	15-0-0	—
DENT 418 (Operative Dentistry) ★5	0-75c-0	0-75c-0
DENT 421 (Removable Prosthodontics) ★3	30-0-0	15-0-0
DENT 422 (Removable Prosthodontics) ★5	0-75c-0	0-75c-0
DENT 426 (Periodontics) ★2	15-0-0	15-0-0
DENT 427 (Periodontics) ★3.5	0-60c-0	0-45c-0
DENT 428 (Pediatric Dentistry) ★1	15-0-0	—
DENT 429 (Pediatric Dentistry) ★2.5	0-45c-0	0-30c-0
DENT 430 (Orthodontics) ★2	15-0-0	15-0-0
DENT 431 (Orthodontics) ★3.5	0-30c-24	0-24c-21
DENT 432 (Diagnosis) ★1	15-0-0	—
DENT 433 (Diagnosis and Treatment Planning) ★3	0-27c-0	0-27c-0
DENT 435 (Radiology) ★0.5	0-6c-0	0-6c-0
DENT 436 (Pain Control) ★2	—	15-0-18
DENT 438 (Oral Surgery) ★2	15-0-0	15-0-0
DENT 439 (Oral Surgery) ★1	0-15c-0	0-15c-0
DENT 442 (Practice Management) ★1	—	15-0-0
DENT 443 (Patient Management) ★1	4-0-11	0-0-15
DENT 445 (Geriatrics) ★1	—	13-0-0
Fourth Year		
DENT 455 (Clinical Oral Pathology) ★1	15-0-0	—
DENT 456 (Correlated Science Seminars) ★1	—	15-0-0
DENT 464 (Fixed Prosthodontics) ★3	0-60c-0	0-30c-0
DENT 465 (Endodontics) ★1	—	10-0-0
DENT 466 (Endodontics) ★1	0-18c-0	0-18c-0
DENT 467 (Restorative Dentistry)	—	15-0-0
DENT 468 (Operative Dentistry) ★5	0-75c-0	0-75c-0
DENT 472 (Removable Prosthodontics) ★2	0-21c-0	0-39c-0
DENT 475 (Hospital Dentistry) ★2	0-30c-0	0-30c-0
DENT 477 (Periodontics) ★2	0-45c-0	0-15c-0
DENT 478 (Pediatric Dentistry) ★1	15-0-0	—
DENT 479 (Pediatric Dentistry) ★1.5	0-18c-0	0-27c-0
DENT 480 (Orthodontics) ★1	15-0-0	—
DENT 481 (Orthodontics) ★2	0-39c-0	0-21c-0
DENT 482 (Diagnosis) ★1	15-0-0	—
DENT 483 (Treatment Planning) ★6	0-21c-0	0-24c-0
DENT 485 (Radiology) ★0.5	0-9c-0	0-9c-0
DENT 488 (Oral Surgery) ★2	15-0-0	15-0-0
DENT 489 (Oral Surgery) ★1	0-15c-0	0-15c-0
DENT 490 (Community Dentistry) ★1	15-0-0	—
DENT 492 (Practice Management) ★1.5	15-0-0	8-0-0

DENT 493 (Patient Management) ★2	8-9c-11	0-9c-15
DENT 496 (Geriatric Dentistry) ★1	0-18c-0	0-18c-0
DENT 497 (Selective Study) ★2	6-12c-0	6-12c-0
DENT 498 (General Practice Clinic) ★3	0-45c-0	0-45c-0
DENT 499 (Satellite Dental Clinic) ★2	0-30c-0	0-30c-0

63.2 MSc and PhD Degrees

1) The courses of study for the degree program are selected by the thesis supervisor or supervisory committee and the Committee of Graduate Studies and Research of the Faculty of Dentistry within the regulations and guidelines of the Faculty of Graduate Studies and Research.

2) The thesis requirements for the Master of Science degree or Doctor of Philosophy degree are detailed in the Faculty of Graduate Studies and Research §203 of the University Calendar.

3) A list of courses available in Graduate Studies in the Faculty of Dentistry is given in §64.2 below.

4) Students are permitted to undertake graduate courses in other faculties of the University.

5) Courses for the MSc Degree and Certificate in Orthodontics are given in §63.4 below.

63.3 Dental Hygiene Diploma

	Term 1 (total hrs)	Term 2 (total hrs)
First Year		
HYG 201 (Anatomy and Embryology) ★2	32-0-0	—
HYG 202 (Histology) ★4	26-0-0	26-0-0
HYG 204 (Biochemistry) ★3	—	42-0-0
HYG 206 (Physiology) ★3	—	42-0-0
HYG 210 (Dental Auxiliary Practice I) ★5.5	28-0-60	0-45c-0
HYG 211 (Concepts in Dental Hygiene Practice) ★7	52-0-0	50-0-0
HYG 212 (Preclinical Dental Hygiene) ★4.5	0-0-135	—
HYG 213 (Clinical Dental Hygiene) ★3	—	0-90c-0
HYG 222 (Community Health I) ★1	—	14-9c-0
HYG 230 (Dental Anatomy) ★3	39-0-0	—
HYG 240 (Dental Radiography) ★2	13-0-0	13-0-6
ENGL (English) ★6	39-0-0	39-0-0
SOC 100 (Introductory Sociology) ★3	—	39-0-0
PSYCO 104 (Psychology) ★3	—	39-0-0
MMID 422 (Bacteriology) ★2.5	26-0-10	—
Second Year		
HYG 300 (Pharmacology) ★2	13-0-0	13-0-0
HYG 305 (Oral Pathology) ★3	42-0-0	—
HYG 311 (Management of Special Needs Patients) ★2	—	28-0-0
HYG 313 (Clinical Practice) ★15	0-240c-0	0-201c-0
HYG 314 (Practice Management) ★1	13-0-0	—
HYG 315 (Professional Practice) ★1	—	14-0-0
HYG 316 (Ethics and Jurisprudence) ★1	—	14-0-0
HYG 320 (Dental Health Education I) ★4	39-0-26	—
HYG 321 (Dental Health Education II) ★2	—	13-39c-0
HYG 322 (Community Health II) ★2	—	26-0-0
HYG 325 (Hospital Dentistry) ★0.5	0-6c-0	0-6c-0
HYG 326 (Periodontology) ★2	14-3c-0	14-3c-0
HYG 328 (General Practice Clinic) ★1	0-15c-0	0-15c-0
HYG 329 (Satellite Dental Clinic) ★2	0-30c-0	0-30c-0
HYG 331 (Dental Office Emergencies) ★1	14-0-0	—
HYG 332 (Dental Specialties) ★1	—	14-0-0
HYG 340 (Dental Radiography) ★2	0-24c-0	0-24c-0
HYG 341 (Preventive Dentistry) ★1	14-0-0	—
DENT 445 (Geriatrics) ★1	—	13-0-0

Completion of six units of course weight in first-year English (i.e. two half-year courses which may be taken in various combinations or one full-year course).

63.4 MSc Degree and Certificate in Orthodontics

	hours/ week	hours/ week
First Year		
DENT 500 (Oral Biology I) ★3	3-0-0	—
DENT 501 (Oral Biology II) ★3	—	3-0-0
DENT 520 (Orthodontics Pre-clinical Lectures) ★7	2-0-0	5-0-0
DENT 521 (Orthodontic Pre-Clinical Lectures) ★3	5-0-0	—
DENT 522 (Orthodontics Seminar I) ★4	0-4s-0	—
DENT 523 (Orthodontics Seminar II) ★4	—	0-4s-0
DENT 524 (Orthodontic Seminar) ★3	0-4s-0	—
DENT 525 (Orthodontic Technique) ★1	1-0-0	—
DENT 526 (Cephalometrics) ★3	0-3s-0	—
DENT 527 (Surgical/Ortho Functional Appliances) ★1	—	1-0-0
DENT 528 (Surgical/Functional Appliances) ★1	1-0-0	—
DENT 529 (Adult Orthodontics) ★1	1-0-0	—
DENT 530 (Orthodontic Clinic) ★9	0-3c-0	0-15c-0
DENT 531 (Orthodontic Clinic) ★5	0-15c-0	—
DENT 532 (Growth and Development) ★2	—	2-0-0
DENT 533 (Research Methodology) ★1	1-0-0	—
DENT 535 (Orthodontic Technique Lab) ★4.5	0-0-9	—
DENT 536 (Cephalometrics Lab) ★1.5	0-0-3	—
DENT 537 (Surgical/Ortho Functional Appliances Clinic) ★1.5	—	0-3c-0
DENT 538 (Surgical/Functional Appliances) ★1	0-3c-0	—
DENT 539 (Adult Orthodontics) ★1	0-3c-0	—
DENT 550 (Statistics & Epidemiology) ★2	1-0-0	1-0-0
DENT 561 (Orthodontic Seminar) ★2	—	0-2s-0
DENT 571 (Orthodontic Clinical Research) ★1.5	—	0-3c-0
DENT 699 (Research Project)	—	15-0-0
THES 900 (Thesis)		
THES 999 (Thesis)		
Second Year		
DENT 601 (Seminar in Oral Biology) ★2	0-1s-0	0-1s-0
DENT 620 (Orthodontics Pre-Clinical Lectures) ★5	5-0-0	—
DENT 621 (Orthodontics Seminar) ★4	0-4s-0	—
DENT 622 (Adult Orthodontics) ★2	1-0-0	1-0-0
DENT 623 (Adult Orthodontics) ★1	1-0-0	—
DENT 624 (Surgical Functional Appliances) ★2	1-0-0	1-0-0
DENT 630 (Orthodontic Clinic) ★15	0-15c-0	0-15c-0
DENT 631 (Orthodontic Clinic) ★5	0-15c-0	—
DENT 632 (Adult Orthodontics) ★3	0-3c-0	0-3c-0
DENT 633 (Adult Orthodontics) ★1	0-3c-0	—
DENT 634 (Surgical Functional Appliances Clinic) ★3	0-3c-0	0-3c-0
DENT 635 (Surgical Functional Appliances Clinic) ★1	0-3c-0	—
DENT 699 (Research Project)	45-0-0	90-0-0
Third Year		
THES 900 (Thesis)		
THES 999 (Thesis)		

63.5 Continuing Education

Courses are offered by various departments from time to time to provide a program of continuing education for the dental profession. A program outlining dates, course descriptions, participation, and length is prepared annually and distributed to the profession.

64 Details of Courses

64.1 DDS Degree

64.1.1 General Information

Courses open to students in the Faculty of Dentistry are listed here in alphabetical order, whether they are offered by the Faculty of Dentistry or by another faculty, except the graduate courses, which are listed separately in §64.2.

Each course is designated by its computer abbreviation and a number.

Following the title of the course is the symbol "★", standing for " units of course weight", and a number indicating the weight of the course as used in computing the grade-point average.

The figures, enclosed in parentheses, indicate the total hours of instruction in the course. If the course is a single-term course, the term in which it may be offered is mentioned before the hours of instruction.

A list of recommended textbooks will be available at registration.

The appearance of a course description in the following list does not constitute any guarantee that the course will actually be offered in the forthcoming session. Course descriptions outlined below are those courses offered during the 1991-92 session. Information as to which courses will be offered, the names of the instructors, and all further details must be sought from the department concerned.

Physical Requirements for University Courses

The University has a commitment to the education of all academically qualified students and special services are frequently provided on campus to assist disabled students.

Nevertheless, some courses make certain unavoidable demands on students, with respect to the possession of a certain level of physical skill or ability, if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the department concerned, and the Disabled Student Services Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for all off-campus courses, instructors may be obliged to refuse registration in such courses.

64.1.2 Basic Sciences

ANAT 412 Gross Anatomy

★5.5 (second term, 107 hours). The course is designed to provide basic information on the structure of the human body which is necessary for dental practice. Lectures emphasize organ relationships in the thorax and head and neck that are important for understanding the spread of disease, diagnostic principles, and surgical treatment. Lectures are followed by student dissections of the human body, prosection demonstrations, laboratories of radiological anatomy, and clinics.

ANAT 413 Cell Biology and Histology

★6 (first term, 90 hours). The goal of the course is to equip the students with histological skills and sufficient knowledge of cell structure and function so that normal life processes and diseases can be understood at the cellular level. Topics in modern cell biology as they relate to clinical medicine and dentistry are examined in a series of lectures in the first part of the course. Histology of human tissues is taught in lectures and laboratories.

ANAT 419 Neuroanatomy

★2 (second term, 30 hours). A basic course in the main structural and functional aspects of the central nervous system, with emphasis on the practical importance of neurological science rather than theoretical concepts. Available only to dental students.

MMID 422 Bacteriology

★2.5 (first term, 38 hours). An introduction to general bacteriology, aspects of infection and resistance, selected examples of infectious diseases. Special bacteriology of the mouth, including dental caries and periodontal diseases. Course for dental hygiene and dentistry students.

PATH 422 General Pathology

★3 (first term, 61 hours). Lectures on the principles of pathology, laboratory instruction in histo-pathology and an introduction to the functions of a pathology laboratory in a hospital.

64.1.3 Anaesthesia

DENT 386 Anesthesia

★1 (first term, 15 hours). This course deals with local anesthesia in didactic form covering anatomy, physiology and pharmacology of different local anesthesics. Discussion of different armamenterium and techniques forms the major part of this course. Complications which can arise from their use including prevention and treatment are also covered.

DENT 387 Anesthesia

★0.5 (first term, 14 hours). Local anesthetic techniques covering all types of infiltration and intraoral blocks form the major component of the laboratory course. Students

practice anesthetic techniques by using each other as patients. Emphasis is on mandibular block and Gow-Gates techniques.

DENT 436 Pain Control
★2 (second term, 33 hours). The control of pain in a dental office. Lectures, labs and clinics cover different drugs including analgesics, sedatives and tranquilizers. Main emphasis is on teaching N_2O/O_2 as conscious-sedation. Physiology, pharmacology, technique and administration of N_2O/O_2 inhalation are covered. Use of Diazepam and other drugs for conscious-sedation and intravenous injections are also part of this laboratory.

64.1.4 Dental Health Care

DENT 340 Community Dentistry
★2 (first term, 30 hours). Such topics as history of dentistry, dental manpower resources, utilization of auxiliaries, epidemiology of dental disease as a community problem, dental public health programs, purchase of dental care and dental care delivery systems are presented.

DENT 341 Preventive Dentistry
★1 (first term, 15 hours). The course will outline population dental health status including aetiological factors of dental diseases and preventive methods of control.

DENT 347 Communications
★1 (second term, 15 hours). The purpose of this course is to help students understand the significance of interpersonal communication, to help them develop their own communication experiences and challenge them to change and improve conditions relative to their profession and society in general.

DENT 394 Nutrition
★2 (first term, 25 hours). A study of nutrients, the role these play in metabolism and dental health. The art of diet counselling with particular emphasis on dental as well as general health is discussed for the life cycle.

DENT 396 Ethics and Dentistry
★1 (first term, 15 hours). To raise the student's level of consciousness concerning the ethics of dental health care and to provide information that will assist them in moral reasoning.

DENT 442 Practice Management
★1 (second term, 15 hours). Introduction of practice administration concepts necessary for the practice of dentistry including office management, accounting principles, handling of insurance cases and effective integration of dental auxiliaries.

DENT 443 Patient Management
★1 (30 hours). This course provides experience in the comprehensive care and management of assigned dental patients. Students are expected to plan, organize and coordinate the delivery of dental care, consistent with established Faculty guidelines.

DENT 445 Geriatrics
★1 (second term, 13 hours). An introductory course describing the needs of the elderly. The course will examine the changing population balance in Canada involving both medical and dental aspects of people over sixty years of age. Course requirements include an additional one day hospital program at the Youville Memorial Hospital for fourth year Dentistry students.

DENT 490 Community Dentistry
★1 (first term, 15 hours). The moral and legal aspects of the practice of dentistry. The legal factors are presented and discussed by members of the Faculty of Law. The teaching of Forensic Odontology will be coordinated with related material presented in other courses.

DENT 492 Practice Management
★1.5 (23 hours). A continuation of DENT 442 given in third dental year.

DENT 493 Patient Management
★2 (52 hours). This course provides experience in the comprehensive care and management of assigned dental patients. Students are expected to plan, organize and coordinate the delivery of dental care consistent with established Faculty guidelines. Students will be required to attend the Admitting Clinic to assist with the management of patients. Lectures and discussions will focus on ethical dilemmas encountered when treating patients.

DENT 496 Geriatric Dentistry
★1 (36 hours). The student will be treating patients in the Youville dental clinic and other hospital departments. The primary objective of the course is to give the student additional experience in providing dental care to well and unwell elderly patients.

DENT 498 General Practice
★3 (90 hours). Each student will be provided an opportunity to develop clinical skills in dental auxiliary utilization, practice management, and practice management in a general practice setting. This course is a practical extension of Dentistry 492.

DENT 499 Satellite Dental Clinic
★2 (60 hours). Each student will spend two weeks in a mobile dental clinic in an area of need in the province. This course is a practical extension of DENT 492.

64.1.5 Dental Materials

DENT 309 Material Sciences
★1 (first term, 15 hours). This course provides a background for the study of materials used in the health professions. The following topics are introduced: atomic structure, bonding, material properties, metals, polymers, ceramics, multiphase materials, and corrosion.

DENT 359 Dental Materials
★2 (first term, 30 hours). This course provides in depth discussions of the materials used in dentistry. Topics include: gypsum products, impression materials, polymers, restorative resins, dental amalgam, gold casting alloys, waxes, investment materials, casting, porcelain, cements, nonprecious casting alloys, steels, high speed instrumentation and materials research methodology.

64.1.6 Diagnosis

DENT 332 Diagnosis
★1 (first term, 22 hours). An introduction to the fundamental principles involved in the patient's historical and clinical data, and the clinical study of disease in order to arrive at a diagnosis and a treatment plan based on the needs of the patient.

DENT 382 Diagnosis
★1 (second term, 10 hours). A continuation of the study of the oral manifestations and diagnosis of local and systemic disease. Emphasis will be upon interpretation of presenting objective and subjective symptoms and altered laboratory values of the disease processes affecting oral and para-oral structures.

DENT 383 Diagnosis
★0.5 (12 hours). Students will be assigned patients throughout the year for clinical examination in order to gain experience in gathering patient data, making the diagnosis, formulating treatment plans, and practicing communicative skills in case presentation. The students will also be expected to provide the necessary dental treatment for their assigned patients.

DENT 432 Diagnosis
★1 (first term, 15 hours). The fundamental principles involved in dental management of the diagnosed medically compromised patient will be discussed by lectures and audio-visual presentation of case examples.

DENT 433 Diagnosis and Treatment Planning
★ 3 (54 hours). Students are assigned to a Diagnosis/Treatment Clinic in order to further refine skills in collecting and interpreting the dental patient's medical treatment, formulating an accurate diagnosis and rational treatment plan under the supervision and instruction of dentistry staff from various divisions and specialties. Each student will be responsible for personally treating or managing the treatment of assigned patients, one of which will be a medically compromised patient.

DENT 482 Diagnosis
★1 (first term, 15 hours). Cases of the oral manifestations of local and systemic disease will be presented in a conference setting and students will be selected at random to participate in the diagnosis and management of each case.

DENT 483 Diagnosis and Treatment Planning
★6 (45 hours). This course is intended to have students acquire an appropriate level of professional competence in patient evaluation, diagnosis and treatment planning and subsequent critical evaluation of the treatment performed. Formative evaluation will be based on the student's ability to perform a proper patient evaluation relative to the medical and dental histories, develop a rational diagnosis and treatment plan and present these logically and effectively to the patient and the clinical instructor. Summative evaluation will occur in accordance with Faculty defined procedures.

64.1.7 Endodontics

DENT 365 Endodontics
★1 (first term, 15 hours). The conservation of pulp-involved and pulpless teeth. Procedures for diagnosis and treatment described, demonstrated and correlated with the related dental and basic sciences.

DENT 366 Endodontics
★2 (second term, 66 hours). Laboratory practice on mannequins under simulated clinical conditions.

DENT 415 Endodontics
★1 (first term, 15 hours). A continuation of DENT 365 with advanced endodontic considerations.

DENT 416 Endodontics
★2 (60 hours). An introduction to clinical procedures with treatment carried out on selected patients.

DENT 465 Endodontics
★1 (second term, 10 hours). A continuation of DENT 365 and 415 with advanced endodontic considerations.

DENT 466 Endodontics
★1 (36 hours). A continuation of DENT 416 with application to clinical practice. Endodontic treatment will be carried out on selected patients.

64.1.8 Fixed Prosthodontics

DENT 310 Dental Anatomy
★2 (first term, 49 hours). Coronal, radicular and pulpal morphology of the primary and permanent dentitions.

DENT 311 Occlusion
★1 (second term, 15 hours). A multidisciplinary didactic program of biomechanical principles of occlusion.

DENT 312 Occlusion
★1.5 (second term, 45 hours). A laboratory program in occlusal relationships and instrumentation.

DENT 363 Fixed Prosthodontics
★2 (30 hours). A didactic course of the biomechanical considerations in providing extracoronal restorations and fixed prosthesis. Emphasis is placed on problem-solving and development of clinical judgement.

DENT 364 Fixed Prosthodontics
★3 (90 hours). A preclinical laboratory course in the principles of tooth preparation, temporization, impressions and cementation correlated with laboratory fabrications of extracoronal restorations.

DENT 413 Fixed Prosthodontics
★2 (30 hours). A didactic course of the biological considerations in providing extracoronal restorations and fixed prosthesis. Emphasis is placed on treatment planning.

DENT 414 Fixed Prosthodontics
★4.5 (120 hours). Laboratory instruction in esthetic considerations of ceramic veneers. The clinical component requires a designated number of extracoronal restorations to be completed.

DENT 464 Fixed Prosthodontics
★3 (90 hours). Practical application of the techniques covered in the lecture portion.

64.1.9 Operative Dentistry

DENT 317 Operative Dentistry
★2 (30 hours). Included will be discussions of basic operating principles; cutting instruments; principles of cavity nomenclature and classification; the principles of cavity preparations along with the manipulation requirements of amalgam and gold foil.

DENT 318 Operative Dentistry
★3 (90 hours). Cavity preparations will be cut in artificial and extracted natural teeth and manipulation of both silver amalgam and gold foil will be practiced. Students are responsible for supplying both anterior and posterior natural teeth for their own use.

DENT 367 Operative Dentistry
★2 (30 hours). A continuation of DENT 317 with emphasis being given to the use of gold foil in situations other than class V, the use of gold inlays, an introduction into the use of white restoratives and the use of amalgam with pin retention in extensively broken down teeth.

DENT 368 Operative Dentistry
★4.5 (135 hours). Both natural (extracted) teeth and artificial teeth will be used in practising the techniques related to gold foils, gold inlays, some white restoratives and large pin amalgams. The second term will be an introduction to the clinic where students will prepare and place silver amalgam restorations in patients.

DENT 417 Operative Dentistry
★1 (first term, 15 hours). The principles and procedures necessary to successful clinical practice will be emphasized. This is a continuation of DENT 367 in which the material will be covered in more depth and oriented specifically to dealing with patients rather than just in a laboratory situation. All the materials used in operative dentistry will be included in the discussions but special emphasis will be given to white restoratives.

DENT 418 Operative Dentistry
★5 (150 hours). Clinical practice on patients will be provided to allow the student to develop the necessary operative skills. All materials, amalgam, gold inlays, gold

oil and white restoratives will be used. The proper operating environment using rubber dam along with orderly procedures will be mandatory.

DENT 467 Restorative Dentistry
★0.0 (second term, 15 hours). Integrated course in restorative dentistry. Clinical cases are presented and discussed by members of the various disciplines. Combinations such as endo/operative/materials, or endo/fixed will be encountered.

DENT 468 Operative Dentistry
★5 (150 hours). A continuation of DENT 418 in which students will be expected to increase their skills and efficiency in operative dentistry to the point where they are capable of completely independent professional judgement and execution. The use of all the types of operative materials is mandatory as is the use of rubber dam in providing a proper operating environment. Observing when and how other students are doing as well as critically assessing that which is observed will be a part of the seminar portion of the course.

64.1.10 Oral and Maxillofacial Surgery and Hospital Dentistry

MED 434 General Medicine
★1 (second term, 15 hours). General aspects of medicine with particular reference to local and systematic diseases of dental interest.

DENT 438 Oral Surgery
★2 (30 hours). This course covers the diagnosis and treatment of basic principles of oral surgery. The student is introduced to the science of exodontia and related subjects. This course also covers other minor oral surgery procedures, e.g., biopsy technique, preprosthetic surgery.

DENT 439 Oral Surgery
★1 (30 hours). Clinical practice of exodontia with assisting introduced. Use of different instruments for oral surgery are emphasized. Suturing techniques and use of different forceps for extraction is taught in this course.

DENT 475 Hospital Dentistry
★2 (60 hours). A two week period of hospital training for senior students where they become familiar with hospital protocol and operating room procedures, observe oral surgery and anesthesia, attend other medical and dental clinics, perform physical evaluation of patients and provide emergency dental care and patient treatment services. An experience in a Geriatric Treatment Hospital will be provided.

DENT 488 Oral Surgery
★1 (30 hours). Minor oral surgery leads to teaching of other aspects of oral surgery. Most aspects of oral and maxillofacial surgery are taught in lecture form. Student is also taught to diagnose and refer difficult procedures to the specialist.

DENT 489 Oral Surgery
★1 (30 hours). Clinical practice of oral surgery continues in fourth year. Student is taught more difficult procedures, e.g., complicated exodontia. Student also gains experience in simple impactions and other minor oral surgery procedures.

64.1.11 Oral Biology

DENT 301 Oral Histology
★3 (45 hours). The development and histology of the teeth and adjacent structures in man.

DENT 302 Ontogeny and Phylogeny
★1.5 (first term, 22 hours). A two-part course dealing with aspects of development of the craniofacial complex. The first part of the course is concerned with ontogeny - the embryological development of the Oropharyngeal apparatus. The second part of the course addresses the phylogeny of the stomatognathic system - the evolution of mankind, and specifically, the dentition.

DENT 304 Biochemistry
★4 (60 hours). Designed to give students in first year dentistry an appreciation of general biochemical concepts in relation to metabolism. In addition, certain topics in oral biochemistry are considered.

DENT 306 Human/Oral Physiology
★6 (90 hours). A comprehensive lecture course on mammalian and human physiology with emphasis on oral physiological topics. The lectures are supplemented with laboratory sessions.

DENT 355 Oral Pathology
★4.5 (second term, 70 hours). The diagnosis, pathology and treatment of common diseases of the teeth and adjacent structures.

DENT 357 Pharmacology
★5 (75 hours). An introduction to the principles of pharmacology including mechanisms of drug action; pharmacokinetics and drug metaboiism; and mechanisms of drug interactions and adverse drug reactions. These principles will be applied to groups of drugs acting on various organ systems of the body, representative drugs being selected whenever possible for their physiological and clinical significance to the practice of dentistry. Particular emphasis will be placed on anaesthetics, antacoids, autonomic drugs and drugs with selective toxicity employed in infections and malignancies.

DENT 401 Dental Therapeutics
★1 (second term, 15-0-0). Lectures will be presented on the following topics: pharmacology and therapeutics, prescription writing, drug schedules and interactions, cardiovascular, geriatric, hemostasis and nutritional considerations, desensitizing agents, sterilization and disinfection, and other agents used in practice.

DENT 454 Applied Oral Biology
★1 (first term, 15 hours). The student will be introduced to the organization and use of the dental research literature. A number of papers will then be selected and critically evaluated in terms of the underlying biological science and significance and potential application of the findings.

DENT 455 Clinical Oral Pathology
★1 (first term, 15 hours). Reading assignments on diseases will be made and cases presented for each student to diagnose. Discussions will follow and will include treatment considerations.

DENT 456 Correlated Science Seminars
★1 (second term, 15 hours). Seminars will include prophylaxis, gingivitis, periodontitis, local anaesthesia, endodontics, orthodontics, extractions, TMJ, operative dentistry, removable prosthodontics and fixed prosthodontics.

64.1.12 Orthodontics

DENT 380 Orthodontics
★2 (30 hours). Growth and development of the craniofacial complex, etiology and diagnosis of malocclusion, biological and mechanical principles of tooth movement, orthodontic examination and records.

DENT 430 Orthodontics
★2 (30 hours). Diagnosis and treatment options, cephalometric eruption guidance and interceptive procedures, introduction to bonding/banding techniques.

DENT 431 Orthodontics
★3.5 (99 hours). Lab/clinic split. Fabrication of some common orthodontic appliances, clinical cases for treatment planning and care, orthodontic screening cases, molar uprighting cases if available, some functional appliance cases.

DENT 480 Orthodontics
★1 (first term, 15 hours). Treatment planning, treatment options and appliance mechanisms for a variety of clinical situations and malocclusions.

DENT 481 Orthodontics
★2 (60 hours). Clinical experience, involving preventive, interceptive and simple treatment of orthodontic problems of particular concern to the general practitioner, is designed to enable the student to apply knowledge acquired in the lectures and laboratory.

64.1.13 Pediatric Dentistry

DENT 378 Pediatric Dentistry
★1 (second term, 15 hours). The lectures are designed to acquaint the student with examination and treatment planning for the child patient, as well as aspects of child behavior management techniques, restorative dentistry and pulp therapy.

DENT 379 Pediatric Dentistry
★1.5 (second term, 45 hours). This lab technique course stresses basic clinical skills performed on dentoforms. Procedures performed include a variety of cavity designs for amalgam, stainless steel crown restorations, the pulpotomy procedure and the fabrication of space maintainers.

DENT 428 Pediatric Dentistry
★1 (first term, 15 hours). The lecture course deals with treatment and management of the adolescent patient as well as space maintainers, preventive and interceptive orthodontics, flourides in caries prevention and management of traumatic tooth injuiries.

DENT 429 Pediatric Dentistry
★2.5 (75 hours). Introduction to clinical dental diagnosis and treatment of children and adolescents.

DENT 478 Pediatric Dentistry
★1 (first term, 15 hours). This lecture course focuses on the dental treatment needs of the physically and mentally handicapped and medically compromised child patient. Additional topics covered include myofunctional therapy, development of the dentition, dental anomalies and prosthodontics for the child patient.

DENT 479 Pediatric Dentistry
★1.5 (45 hours). A clinical course designed to provide the student with the diagnosis, treatment and management of children and adolescents with more complex dental needs. The use of nitrous oxide analgesia is demonstrated on select cases.

64.1.14 Periodontics

DENT 326 Periodontics
★1 (second term, 15 hours). Students will be presented with detailed information and instructions pertaining to the etiology, pathogenesis, microscopic and clinical characteristics of diseased and healthy periodontium. An introduction to the fundamental concepts of diagnosis, prevention and treatment of the early periodontal lesion will also be given.

DENT 327 Periodontics
★1 (second term, 30 hours). Introduction to the periodontal examination and charting procedures. The student will also learn to identify and record the primary etiological factors in the initiation and progression of periodontal disease and preventive oral hygiene procedures to control these etiological agents. A great portion of the clinical experience will emphasize the use of scalers and curettes.

DENT 376 Periodontics
★2 (30 hours). Detailed information will be presented pertaining to the fundamental concepts of diagnosis, prevention and treatment of periodontal disease. Material will cover a more in depth view of periodontal disease and the therapies which are available. The role of occlusion as it relates to periodontal tissue will be covered in more depth. Emphasis is placed on procedural techniques, their indications and contraindications.

DENT 377 Periodontics
★2.5 (67 hours). Students will be introduced to periodontal treatments of patients. Emphasis is placed on application of skills learned in lecture and pre-clinic exercises from DENT 327. The student will develop the skills to diagnose and treat early forms of periodontal disease.

DENT 426 Periodontics
★2 (30 hours). A continuation of the previous year which expands and gives a more in depth view of periodontal disease and the therapies which are available. Emphasis is placed on the surgical techniques as methods for treating periodontal disease.

DENT 427 Periodontics
★3.5 (105 hours). Continues to involve the treatment of patients. Emphasis is placed on the initial preparatory phase of therapy, showing more versatility in the types of periodontal treatments and how these are interrelated with other dental disciplines. The student will develop the skills to diagnose and to treat moderate forms of periodontal disease and be able to learn how to integrate these treatments into a general dentistry practice.

DENT 477 Periodontics
★2 (60 hours). Students will further expand their skills in diagnosis and treatment of advanced cases of periodontal disease by means of periodontal surgery. Patients treatment progress will be assessed by recall checks. Emphasis will be placed on interdisciplinary treatment approaches for handling patients' dental problems.

64.1.15 Radiology

DENT 334 Radiology
★1 (second term, 15 hours). The elementary principles of radiology including the basic electronics, physics and geometry of image formation as well as the photographic basis of image production on film.

DENT 384 Radiology
★1 (first term, 15 hours). The fundamentals in the interpretation of normal and radiologic signs of disease in the jaws. A systematic review of the radiologic evidence of disease in the jaws will also be presented.

DENT 385 Radiology
★1 (24 hours). A laboratory course involving two segments: an introductory experience in production of x-ray films on mannequins and in patients; an introduction to the interpretation and reporting of dental x-ray films.

DENT 435 Radiology
★0.5 (12 hours). Ongoing clinical experience in radiographic film production and the reporting of radiographs on clinical patients.

DENT 485 Radiology
★0.5 (18 hours). (a) Clinical experience in radiologic interpretation and supervision of auxiliaries in the performance of radiographic film production. (b) Clinical experience in reporting of radiographs in conjunction with diagnosis.

64.1.16 Removable Prosthodontics

DENT 321 Removable Prosthodontics
★2 (30 hours). A lecture-audio/visual series that will relate to the DENT 322 laboratory experience; an introduction to removable partial dentures specific to classification, component parts, physiological/psychological design concepts and natural tooth recontouring.

DENT 322 Removable Prosthodontics
★2 (second term, 69 hours). A laboratory experience that simulates clinical procedures and which requires the application of the concepts presented in DENT 321.

DENT 371 Removable Prosthodontics
★2 (first term, 30 hours). A lecture/audio-visual series that relates to the DENT 372 laboratory and clinical experience.

DENT 372 Removable Prosthodontics
★5 (144 hours). A laboratory/clinical experience emphasizing the technical aspects and a clinical experience in treating an edentulous patient requiring complete dentures.

DENT 421 Removable Prosthodontics
★3 (45 hours). A lecture-audio/visual series emphasizing the biological principles of complete denture construction. Prosthodontic pathology, relines, resilient liners, partial dentures, overdentures, immediate dentures and related nutritional concerns are presented.

DENT 422 Removable Prosthodontics
★5 (150 hours). A clinical experience in all treatment phases of basic removable prosthodontics.

DENT 472 Removable Prosthodontics
★2 (60 hours). An advanced clinical prosthodontic experience in treatment of patients requiring complete dentures, removable partial dentures, immediate surgical dentures, relines and overdentures.

64.1.17 Selective Study

DENT 497 Selective Study
★2 (36 hours). Advanced study program. Options will be in different disciplines. These options include research, independent study, laboratory and/or clinical projects. Students must select at least one program.

64.2 Graduate Courses

The hours of instruction in the course per week are indicated by the three figures in the parentheses after the term. The format is as follows: The first position indicates lecture hours; the second position indicates seminar hours (s), demonstration (d), clinic (c) or lecture-lab (L); and the third position indicates laboratory hours. The hours of instruction for a full session course are the same in both terms unless otherwise indicated.

DENT 500 Oral Biology I
★3 (first term, 3-0-0). Functional anatomy of head and neck. Development, structure, function and biochemistry of connective tissues associated with the jaws. (For graduate students in Orthodontics.)

DENT 501 Oral Biology II
★3 (second term, 3-0-0). A continuation of Oral Biology I. Growth and development of skull. Anthropology. Selected topics in physiology.

DENT 502 Oral Biology (Applied Anatomy)
★3 (second term, 3-0-0). Consideration of developmental and gross anatomy related to the appreciation and practice of dentistry.

DENT 503 Advanced Oral Pathology
★3 (first term, 3-0-0). A review of diseases that affect the oral tissues and an exploration of recently acquired knowledge pertaining to them.

DENT 504 Oral Medicine
★3 (second term, 3-0-0). A study of the mechanisms of oral disease as a basis for rationale of treatment.

DENT 505 Recent Advances in Oral Medicine
★1 (first term, 1-0-0). Oral pathology is reviewed in a series of 14 lectures on the current status of oral medicine. Emphasis is on the application of new knowledge of the diagnosis and management of dental and paradental disease processes in adolescents.

DENT 506 Dental Biochemistry and Physiology
★2 (second term, 2-0-0).

DENT 520 Orthodontic Pre-clinical Lectures
★7 (2-0-0;5-0-0). The pre-clinical lecture series is designed to give the student entry-level skills for orthodontic case management. The second term is the beginning of a 40-week program designed to enhance diagnostic skills, treatment planning objectives and mechanics.

DENT 521 Orthodontic Pre-clinical Lectures
★3 (5-0-0). Intersession program of 10 weeks. A continuation of DENT 520.

DENT 522 Orthodontic Seminar
★4 (first term, 0-4s-0). Designed to provide knowledge base for ortho records and synthesize that knowledge base into treatment analysis.

DENT 523 Orthodontic Seminar
★4 (second term, 0-4s-0). A continuation of DENT 522. Orthodontic theory and practice including etiology and diagnosis of malocclusion.

DENT 524 Orthodontic Seminar
★3 (0-4s-0). Intersession program of 10 weeks. A continuation of DENT 523. Includes advanced treatment planning and different treatment philosophies.

DENT 525 Orthodontic Technique
★1 (first term, 1-0-0). Theory and biomechanical principles involved in orthodontic appliances are presented.

DENT 526 Cephalometrics Seminars
★3 (first term, 0-3s-0). Theory of cephalometrics and the various angular, linear and proportional measurements utilized to assist treatment planning are presented.

DENT 527 Surgical/Functional Appliances
★1 (second term, 1-0-0). Lectures alternate between surgical/ortho and functional appliances. Co-ordinate with the oral surgery division.

DENT 528 Surgical/Functional Appliances
★1 (1-0-0). Intersession program of 10 weeks. A continuation of DENT 527 which presents a more detailed knowledge base to allow comprehensive treatment planning.

DENT 529 Adult Orthodontics
★1 (1-0-0). Intersession program of 10 weeks. Pre-clinical lecture/seminar series to introduce the graduate student to adult orthodontics.

DENT 530 Orthodontic Clinic
★9 (0-3c-0; 0-15c-0). The clinical orthodontic experience to compliment DENT 520. The student commences treatment on 2-4 patients the first term with an additional 10-16 new patient starts in the second term.

DENT 531 Orthodontic Clinic
★5 (0-15c-0). Intersession program of 10 weeks. A continuation of DENT 530 during which active patients are transferred to junior students.

DENT 532 Growth and Development
★2 (second term, 2-0-0). A detailed review of the postnatal growth and development of human craniofacial structures. Longitudinal and cross sectional growth data are presented.

DENT 533 Research Methodology
★1 (first term, 1-0-0). Review of scientific methodology and direction of students in technic of evaluating dental literature. A research proposal or literature review is required as part of this course.

DENT 535 Orthodontic Technique Laboratory
★4.5 (first term, 0-0-9). Lab sessions allow the students to apply skills necessary to manipulate ortho material in addition to fabricating appliances required to treat simulated ortho clinical cases.

DENT 536 Cephalometrics Lab
★1.5 (first term, 0-0-3). A lab or technique course where the student applies the knowledge of DENT 526. Computerized cephalometrics and growth predictions based on cross sectional data is available to the students.

DENT 537 Surgical/Functional Appliances
★1.5 (second term, 0-3c-0). Clinical course to complement DENT 527. Assigned cases are treatment-planned, and appropriate appliance therapy is initiated.

DENT 538 Surgical/Functional Appliances
★1 (0-3c-0). Intersession program of 10 weeks. Clinical compliment to DENT 537. Transfer cases from senior to junior students. Alternate clinics.

DENT 539 Adult Orthodontics
★1 (0-3c-0). Intersession program of 10 weeks. Clinical component associated with DENT 529. Students will assist with, and later assume treatment responsibility during this transfer quarter.

DENT 540 Advanced Pedodontics
★11 (1-9c-0).

DENT 550 Statistics and Epidemiology
★2 (15-0-0). This course will develop principles of scientific methodology of problem solving, statistical terms and the qualitative and quantitative evaluation of oral disease. (Course offered in alternate years).

DENT 561 Orthodontic Seminar
★2 (second term, 0-2s-0). Seminars in the diagnosis and treatment of temporomandibular joint problems. Includes a comprehensive literature review. Emphasis placed on orthodontic considerations in the prevention and management of mandibular dysfunction.

DENT 570 Dental Materials
★2 (first term, 2-0-0). The course will cover the structure, properties and testing methods relative to dental materials. Specific materials and the clinical and biological significance of their properties will be discussed.

DENT 571 Orthodontic Clinical Research
★1.5 (second term, 0-3c-0). Participation in the clinical research project based at the University of Alberta Hospital.

DENT 601 Seminars in Oral Biology
★2 (0-1s-0). Seminars will include the major areas of research in the Department of Oral Biology. Student will present one seminar.

DENT 607 Conference Seminars in Oral Biology I
★3 (first term, 0-3s-0) This course will include seminars and conferences on selected aspects of oral biology. Continuous evaluation of student preparation and participation throughout the course will be used for assessment. This is an optional course open to students outside the Faculty of Dentistry by consent of the Chair, Department of Oral Biology.

DENT 608 Conference Seminars in Oral Biology II
★3 (second term, 0-3s-0) This is a continuation of DENT 607.

DENT 609 Connective Tissue Research
★2 (0-1s-0). This course will critically survey recent research on connective tissues and will aim to provide students practice in communicating research data.

DENT 620 Orthodontic Pre-clinical Lectures
★5 (first term, 5-0-0). This course contains the third and last block of the above 40-week program.

DENT 621 Orthodontic Seminar
★4 (first term, 0-4s-0). Continuation of DENT 524 where current pertinent literature review and post retention cases are discussed.

DENT 622 Adult Orthodontics
★2 (1-0-0). Continuation of DENT 529. Includes information on the treatment objectives and limitations associated with non-growing patients.

DENT 623 Adult Orthodontics
★1 (1-0-0). Intersession program of 10 weeks. Conclusion of the adult ortho theory seminar. Current pertinent literature is reviewed and critiqued.

DENT 624 Surgical/Functional Appliances
★2 (1-0-0). Continuation of DENT 528. Includes literature reviews as well as case analysis.

DENT 630 Orthodontic Clinic
★15 (0-15c-0). Continuation of DENT 531. Students have increased case loads to approximately 55 active patients which present a cross section of treatment stages.

DENT 631 Orthodontic Clinic
★5 (0-15c-0). Intersession program of 10 weeks. Continuation of DENT 630. The senior students gradually transfer caseloads to junior students.

DENT 632 Adult Orthodontics
★3 (0-3c-0). Continuation of DENT 539. Multi-disciplinary cases are given treatment priority. Caseload is 6-8 active patients.

DENT 633 Adult Orthodontics
★1 (0-3c-0). Intersession program of 10 weeks. Continuation of DENT 623. Transfer cases from senior to junior students.

DENT 634 Surgical/Functional Appliances
★3 (0-3c-0). Continuation of DENT 538. Each student has between 3-4 active cases in each sub-clinic.

DENT 635 Surgical/Functional Appliances
★1 (0-3c-0). Intersession program of 10 weeks. Cases transferred from senior to junior students.

DENT 640 Advanced Pedodontics
★11 (1-0-9).

DENT 699 Research Project
★6 (240 hours). Credit equivalent to a two-term course. The work undertaken can include critical evaluation of a designated area of dentistry which may or may not include original research. The work completed will be presented in the form of a report to the dental department offering the program. No more than one project can be undertaken by any student in a program leading

o a graduate degree in oral biology or dentistry. Prereq-uisite: Consent of the department offering the graduate degree.

DENT 800 Special Registration
★0 (either term, unassigned). Dentistry undergraduate students registered in universities other than the Univer-sity of Alberta and who have been admitted to the U of A, Faculty of Dentistry as a "Visiting Student" in accordance with the Faculty guidelines may be required to register in this course for the purpose of entitlement to the University library and registration in the Alberta Dental Association Education Register.

THES 900 Thesis

THES 999 Thesis

64.3 Dental Hygiene Diploma

64.3.1 General Information

In the following list of courses open to students in the Dental Hygiene Program, each course is designated by its computer abbreviation and number.
The courses are listed in subject order.

Following the title of each course is the symbol "★" ("course weight", and a number indicating the weight of the course as used in computing grade-point averages.

The figures, enclosed in parentheses, indicate the total hours of instruction in the course. If the course is a single term course, the term in which it may be offered is mentioned before the hours of instruction.

The appearance of a course descripton in the following list does not constitute any guarantee that the course will actually be offered in the forthcoming ses-sion. Course descriptions outlined below are those courses offered during the 1991-92 session. Information as to which courses will be offered, the names of instructors, and all further details must be sought from the department concerned.

64.3.2 Dental Hygiene Courses

D HYG 201 Anatomy and Embryology
★2 (first term, 32 hours). Basic human gross anatomy with emphasis on the head and neck regions and their clinical implications.

D HYG 202 Histology
★4 (52 hours). Basic microscopic anatomy pertinent to the main body systems and a more detailed treatment of the structure and development of oral tissues, with special reference to the teeth and their supporting structures.

D HYG 204 Biochemistry
★3 (second term, 42 hours). This course is designed to provide the students in the dental hygiene program with a general understanding of biochemical concepts. In addition, certain topics in oral biochemistry are consid-ered.

D HYG 206 Physiology
★3 (second term, 42 hours). A comprehensive lecture and laboratory course on basic human physiology.

D HYG 210 Dental Auxiliary Practice I
★5.5 (133 hours). An introductory course designed to provide the student with dental auxiliary skills required in clinical dental practice. The theory and technique of working with dental materials is integrated with chairside experiences.

D HYG 211 Concepts in Dental Hygiene Practice
★7 (102 hours). A lecture course integrating the knowl-edge, practice and skills of various dental disciplines. Dental hygiene skills, dental assisting skills, and dental practice and administration are emphasized. The course stresses an experiental approach to dental diseases, including individual patient instruction in oral physi-otherapy.

D HYG 212 Preclinical Dental Hygiene
★4.5 (first term, 135 hours). A pre-clinic course integrat-ing the knowledge, practice and skills of various dental disciplines. Dental hygiene skills, dental assisting skills, and dental practice and administration are emphasized. The course stresses an experiental approach to dental diseases, including individual patient instruction in oral physiotherapy.

D HYG 213 Clinical Dental Hygiene I
★3 (second term, 90 hours). A clinical course integrating the knowledge, practice and skills of various dental disciplines. Dental hygiene skills, dental assisting skills, and dental practice and administration are emphasized. The course stresses an experiential approach to dental diseases including individual patient instruction in oral physiotherapy.

D HYG 222 Community Health I
★1 (second term, 23 hours). The historical and philo-sophical background of community health, the function of dentistry in public health services, the fundamentals of planning, organizing and delivering public health dental care are included. The role of the dental team in community health and the delivery of services is exam-ined within the context/structure of a management scheme which utiiizes a systems approach. Emphasis is placed on dental health programs currently delivered in Canada, particularly in Alberta. Field experience on applying epidemiological methods are included.

D HYG 230 Dental Anatomy
★3 (first term, 39 hours). A self-study course that is concerned with nomenclature, biologic considerations of tooth form and function; permanent and deciduous teeth are studied in detail.

D HYG 240 Dental Radiography
★2 (32 hours). An introductory course covering the history of dental radiography as well as lectures in radiation physics, radiobiology, radiation control and radiation hygiene. Common types of radiographic films and film characteristics will be discussed as well as photographic chemistry and methods of processing. Projection geometry, principles of dental radiography and normal radiographic anatomy as it relates to identi-fication and mounting of radiographs will be stressed. Each student will also rotate through the clinics in the Second Term for preclinical experience.

D HYG 300 Introduction to Pharmacology
★2 (26 hours). Lectures are used to illustrate the principles of pharmacology including rational application of commonly used drugs to the treatment of disease. This course is available only to students registered in the Dental Hygiene Diploma program.

D HYG 305 Pathology
★3 (first term, 42 hours). Introduction to the principles of pathology with consideration of the more common diseases affecting the human body. Visual differentiation between normal and abnormal tissues; the physiological and pathological changes which affect the teeth, their supporting structures and the oral mucosa, including oral manifestations of selected systemic disturbances.

D HYG 311 Dental Auxiliary Practice IV
★2 (second term, 28 hours). A lecture course that emphasizes the clinical care and management tech-niques required for patients with special needs: the physically and/or mentally disabled patient, the sensory disabled patient, and the medically compromised pa-tient. Students will be responsible for completing rel-evant projects for course evaluation.

D HYG 313 Clinical Practice
★15 (441 hours). This is an advanced clinical course that integrates the knowledge and practice of dental hygiene skills, dental assisting skills, dental practice management and administration.

D HYG 314 Practice Management
★1 (first term, 13 hours). An introduction to practice management concepts necessary for the practice of dentistry, including keeping of office and patient records, and effective integration of dental auxiliaries into prac-tice.

D HYG 315 Professional Practice
★1 (second term, 14 hours). This course explores trends and issues arising from societal forces which have implications on dental hygiene practice at provin-cial, national and international levels. Students will ex-amine significant demographic, political and economic issues with consideration of scientific and technological change, that impact on professional practice.

D HYG 316 Ethics and Jurisprudence
★1 (second term, 14 hours). This course discusses models of professionalism with emphasis on professio-anl ethics and the law and dental hygiene.

D HYG 320 Dental Health Education I
★4 (first term, 65 hours). An introduction to the princi-ples of dental health education. Construction and utilization of audiovisual materials, the operation of audiovisual equipment and instructional preparation for group edu-cation is included.

D HYG 321 Dental Health Education II
★2 (second term, 52 hours). A continuation of D HYG 320. The application of Educational theory to teaching is provided by field experience in a variety of community settings.

D HYG 322 Community Health II
★2 (second term, 26 hours). Focus on the dental hygienist's role in promoting health in the community, with an emphasis on epidemiology, research methodologies, program planning and delivery. Students will plan a model community dental health program utilizing a sys-tems approach.

D HYG 325 Dental Hygiene Hospital Dentistry
★0.5 (12 hours). Students are provided with experience in the utilization of an integrated health care approach to hospitalized special populations through rotations at Alberta Hospital and the University of Alberta Hospital.

D HYG 326 Periodontology for the Dental Hygienist
★2 (34 hours). A lecture and demonstration course designed to introduce the student to those procedures that are commonly associated with the practice of perio-dontics. Lectures on the classification of periodontal disease, the objectives of periodontal therapy and on how to assess periodontal conditions are also included. A periodontal clinical association with dental students will also take place on a clinic rotation basis.

D HYG 328 General Practice Clinic
★1 (30 hours). Each student will be provided an oppor-tunity to develop clinical skills in a general practice setting. The role of a hygienist as a member of the dental team will be emphasized.

D HYG 329 Satellite Dental Clinic
★2 (60 hours). Each student will spend a period of two weeks in a mobile dental clinic in an area of need within the province.

D HYG 331 Dental Office Emergencies
★1 (first term, 14 hours). This is a lecture course that will include the etiology, symptoms and primary treat-ment methods associated with disease entities that have the potential of constituting a dental office emergency.

D HYG 332 Dental Specialties
★1 (second term, 14 hours). Introduction to specialties in dental practice and the role of the dental hygienist in each area. A clinical rotation in each specialty is in-cluded.

D HYG 340 Dental Radiography
★2 (48 hours). Clinical experience in intraoral examina-tions on patients as well as processing and mounting radiographs.

D HYG 341 Preventive Dentistry
★1 (first term, 13 hours). The course will outline popula-tion dental health status including aetiological factors of dental disease and peventive methods of control.

DENT 445 Geriatrics
★1 (second term, 13 hours). An introductory course describing the needs of the elderly. The course will examine the changing population balance in Canada involving both medical and dental aspects of people over sixty years of age. Course requirements include an additional one day hospital program at the Youville Memorial Hospital for fourth year Dentistry students.

64.3.3 Bacteriology

MMID 422 Bacteriology
★2.5 (first term, 38 hours). An introduction to general bacteriology, aspects of infection and resistance, selected examples of infectious diseases. Special bac-teriology of the mouth, including dental caries and periodontal diseases. Course for dental hygiene and dentistry students.

64.3.4 Psychology

PSYCO 104 Basic Psychological Processes
★3 (either term, 3-0-1/4). Principles and development of perception, motivation, learning, and thinking and their relationship to the psychological functioning of the indi-vidual. The course is a prerequisite to most courses in the department and is normally followed by PSYCO 105.

64.3.5 Sociology

SOC 100 Introductory Sociology
★3 (either term, 3-0-0). An examination of the theory, methods and substance of sociology. The study of how societies are shaped including culture, socialization, deviance, stratification and groups. The process of social change through social movements, industrializa-tion, etc. Note: Third-year or more advanced students should take SOC 300 rather than SOC 100. Not to be taken by students with credit in SOC 202 or 300.

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Education

Faculty of Education

71 Introductory

71.1 Members of the Faculty

71.1.1 Officers of the Faculty

Dean
RS Patterson, PhD

Associate Dean (Research and External Relations)
HW Zingle, PhD

Associate Dean (Undergraduate Studies)
DJ Sande, PhD

Assistant Dean (Field Experiences)
AH Borys, EdD

Assistant Dean (Student Services)
EA Conn-Blowers, PhD

Adjunct Assistant Professors
V Oleksyk, BEd, Dip in ED
M Whelan, MEd

Administrative Officers
DE Chalmers (Records Officer)
SI Jamieson, MEd (Executive Assistant to the Dean)
WA Kiffiak, BA (School Liaison Officer)

Professor of Education
M Horowitz, EdD

David Peikoff Chair of Deafness Studies
JD Schein, PhD

71.1.2 Educational Administration

Professor and Chair
EW Ratsoy, PhD

Professors
CS Bumbarger, EdD
EA Holdaway, PhD
AG Konrad, PhD
DA MacKay, PhD
RG McIntosh, EdD
E Miklos, PhD
DM Richards, PhD
JM Smail, PhD
KL Ward, PhD

Associate Professors
JH Balderson, PhD
J Fris, PhD
ML Haughey, PhD
TC Montgomerie, PhD

Assistant Professors
L Larocque, PhD
WG Maynes, PhD
JF Peters, PhD
B Young, PhD

Adjunct Assistant Professor
G Thomas, PhD

Administrative Officer
AC Dacong, BSc

71.1.3 Educational Foundations

Professor and Chair
MK Bacchus, PhD

Professors
PJ Carney, PhD
AM Decore, PhD
AD Fisher, PhD
HW Hodysh, PhD
N Kach, EdD
PJ Miller, PhD
RS Pannu, PhD
RS Patterson, PhD
AT Pearson, PhD
DR Pugh, MLitt
CA Urion, PhD
FN Walker, PhD
DG Wangler, PhD

Adjunct Professor
KL Gupta, PhD

Associate Professors
MI Assheton-Smith, PhD
HM Lysons, MA
GD Taylor, PhD
EB Titley, PhD
JR Young, MEd

Assistant Professor
EK Callan, PhD

Adjunct Assistant Professor
Z Husaini, PhD

Administrative Officer
B Shokal

71.1.4 Educational Psychology

Professor and Chair
EW Romaniuk, PhD

Professors
BC Bain, PhD
DA Baine, EdD
FJ Boersma, PhD
P Calder, PhD
JP Das, PhD
EL Eberlein, PhD
GW Fitzsimmons, PhD
EE Fox, PhD
WJ Hague, PhD
SM Hunka, PhD
HL Janzen, PhD
RF Jevne, PhD
GM Kysela, PhD
TO Maguire, PhD
JJ Mitchell, PhD
RF Mulcahy, PhD
CA Norman, PhD
JW Osborne, PhD
JG Paterson, EdD
M Rodda, PhD
WT Rogers, PhD
PC Sartoris, PhD
DD Sawatzky, PhD
RH Short, PhD
FD Snart, PhD
RJ Sobsey,. EdD
LL Stewin, PhD
AR Vander Well, PhD
LR Wilgosh, PhD
CR Yewchuk, PhD
HW Zingle, PhD

Adjunct Professors
ST Carey, PhD
LA Pagliaro, PhD

Associate Professors
EA Conn-Blowers, PhD
RH Frender, PhD
JS Goldberg, DPS
CT King, PhD
PW Kozley, PhD
LMO McDonald, PhD
DT Shannon-Brady, PhD

Adjunct Associate Professors
CA Blashko, MEd
K Gough, PhD
M Handman, PhD
GD Hundleby, PhD

Assistant Professors
MA Bibby, MED
GC Hess, PhD

Adjunct Assistant Professors
CE Cumming, PhD
D Mason, PhD
MM McVea, PhD
LJ Throndson, MEd
JR Reddon, PhD

Administrative Officer
KE Machon, BA, BCom

71.1.5 Elementary Education

Professor and Chair
RK Jackson, PhD

Professors
JM Blakey, EdD
MP Browne, PhD
WG Cathcart, PhD
CR Chamberlin, PhD
LM Everett-Turner, PhD
WT Fagan, PhD
GJ Fishburne, PhD
JM Kirman, PhD
GV Malicky, PhD
DL Massey, PhD
KA Neufeld, PhD
DV Parker, PhD
DJ Sande, PhD
D Sawada, PhD
B Schwartz, DEd
RL Ware, EdD
WD Wilde, PhD
JH Young, PhD

Adjunct Professor
F Kozar, PhD

Associate Professors
DJ Clandinin, PhD
RJ de Frece, PhD
JM Edwards, PhD
HMR Hayden, PhD
HG Ilott, PhD
MF Juliebo, PhD
JT Patrie, PhD
PH Rafferty, EdD
DG Tucker, PhD
JM Vallance, PhD

Assistant Professors
SC Chard, PhD
BJ Gustafson, PhD
RA McKay, MEd
DJ Oberg, MLS
PM Rowell, PhD
KJ Willson, PhD

Administrative Officer
MG Wadsworth, BA

71.1.6 Secondary Education

Professor and Chair
KG Jacknicke, PhD

Professors
LS Beauchamp, EdD
AH Borys, EdD
W Brouwer, PhD
TV Craig, PhD
HJ Kass, PhD
TE Kieren, PhD
VM Lefebvre, PhD
CY Oh, PhD
AT Olson, PhD
JE Oster, PhD
DV Parker, PhD
JB Parsons, PhD
SE Sigurdson, PhD
SD Ubelacker, PhD
MJM van Manen, PhD

Associate Professors
TR Carson, PhD
JJ Jagodzinski, PhD
WD Samiroden, PhD

Assistant Professors
TJ Dust, MM
ML Iveson, PhD

Administrative Officer
ME Compton

71.1.7 Adult, Career and Technology Education

Professor and Chair
AG Konrad, PhD

Professors
DJ Collett, PhD
MW Petruk, PhD
CH Preitz, EdD
M Szabo, PhD
HD Tichenor, PhD
DR Young, PhD

Associate Professors
AK Deane, MEd
DJ Engel, PhD
JFD Ilott, PhD
JJ LaFollette, EdD
PW Wright, PhD

Assistant Professors
P Brook, PhD
TM Derwing, PhD

Administrative Officer
GD Kendal, BA

71.1.8 Supporting Services

Instructional Technology Centre Director
DA Mappin, MEd

Assistant Director of Student Laboratory Services
H Hoekstra, MEd

Centre for International Education and Development Director
MK Bacchus, PhD

Research Services Division Coordinator
HW Zingle, PhD

Adult and Higher Education Coordinator
AG Konrad, PhD

Faculty of Education Clinical Services Coordinator
JG Paterson, EdD

Centre for Measurement and Evaluation
WT Rogers, PhD

71.1.9 Additional Members of Faculty Council

President and Vice-Chancellor
P Davenport, PhD

Professors
R Anderson, PhD (Arts)
WA Preshing, PhD (Business)
W Archer, PhD (Extension)
NI Fetterman, PhD, (Home Economics)
WJ Kurmey, AM (LS), (Library Science)
O Yonge, MEd (Nursing)
LP Thompson, PhD (Physical Education and Recreation)
P Schneider, PhD (Rehabilitation Medicine)
H Hebert, MPE, (Faculté Saint-Jean)
L Mandin, MEd (Faculté Saint-Jean)
DD Beatty, PhD (Science)

Representatives
A Jamha, Alberta Teachers' Association
D Munck, Education Students' Association
J Wolff, Education Students' Association
One Student from Graduate Students' Association (TBA)
K DeLong, Herbert T Coutts Library

Registrar of the University
BJ Silzer, MEd

71.2 General Information

The Faculty of Education provides professional preparation for teachers and graduate study opportunities for those interested in more specialized advanced work in the field of education. Undergraduate teacher preparation programs are available for those anticipating careers in preschool, elementary, secondary, or post-secondary/adult education.

Each program for the Bachelor of Education degree provides for certification to practise as a teacher in Alberta. Certificates are granted by the Minister of Education, on the recommendation of the Faculty of Education. Student Visitors (persons on student visas) will not be recommended for certification.

Inquiries should be addressed to the Office of the Associate Dean (Undergraduate Studies), Faculty of Education, the University of Alberta.

71.3 Important Deadlines

(1) **Admission to the University:** See §14.2 for detailed information.

(2) **Transfer to the Faculty of Education from another faculty in the University:** See §14.2 for detailed information.

(3) **Withdrawal from Faculty:** Formal notice is required. See §15.2.5 of this Calendar for fee assessment.

(4) **Changes to Course Registration - Additions:** Full session and first term courses - September 11; second term courses - January 10.

(5) **Changing from "credit" to "audit"** First term and full session courses - September 12-16; second term courses - January 13-15.

(6) **Changes to Course Registration - Withdrawal:**

a. Students registered in Phase II or III practicum experiences (Secondary route, Industrial Arts route, Vocational Education route) or the Professional Year (Elementary route) will refer to the appropriate schedule below for dates.

b. **For all other students:**
First term courses - November 15
Full Session courses - January 10
Second term courses - March 20

(7) **Application to receive a degree:**
At Spring Convocation - February 1
At Fall Convocation - September 1

72 Faculty Regulations

72.1 Admission

72.1.1 Admission Requirements

Admission requirements are set out in §13 of this Calendar. For English Language Proficiency requirements see §13.22.

72.1.2 Application for Admission

Application procedure is explained in §14.2 of this Calendar.

No definite and final ruling concerning admission can be given until all certificates and transcripts of standing have been reviewed by the Office of the Registrar and/or the Faculty of Education. It is the applicant's responsibility to ensure that the University receives all documents. Admission cannot be guaranteed for any prospective applicant for whom transcripts and other documents are not received by the document deadlines.

Quota

In September, 1991, the Faculty of Education will impose a quota on admission to all routes of the BEd degree program and the Combined BEd/BSc and BPE/BEd degree programs. The quota will be imposed at Year 2 for the Industrial Arts and Vocational Education (high school specialization) routes and at Year 3 for the Elementary and Secondary routes and the Combined BEd/BSc degree program.

The quota will also be imposed for applicants to the BEd After Degree program (refer to §75 for details).

Elementary Route

300 applicants to Year 3 will be accepted.

To qualify for admission to Year 3, a student must present:

(1) A minimum Cumulative Grade Point Average (CGPA) of 5.5 on 60 units of course weight which must include the following:

a. EDFDN 201, EDPSY 163, ED PR 151

b. EDACT 274 or CMPUT 161

c. 27 units of course weight from the Elementary Education Elements
Language/Literature - 6 units of course weight
Mathematics - 3 units of course weight
Social Science - 3 units of course weight
Natural Science - 3 units of course weight
Fine Arts - 3 units of course weight
Canadian Studies - 6 units of course weight
Physical Education - 3 units of course weight

d. 21 units of course weight of Non-Education courses, 12 of which must be at the senior level. Students who are interested in the Special Education, Music Education, Early Childhood Education, or Intercultural Education minors, should present courses appropriate for these areas. A list of suggested courses is available from the Faculty of Education.

(2) Satisfactorily complete the Faculty of Education Speech Screen (ED ES 132).

(3) Present evidence of work or service experience with children or youth.

(4) Provide letters of reference from two persons familiar with the applicant's work, personality, and character.

(5) Provide a focused written statement.

(6) An interview may be required.

Selection and admission will be based primarily on the rank order of the CGPA.

Secondary Route

340 applicants to Year 3 will be accepted. Quota limits within this number will be imposed as follows:

Art	20
Business Education	20
Drama	20
English	40
Home Economics	20
Mathematics	40
Modern Languages	20
Music	20
Physical Education	40
Sciences:	
Biological	20
General	20
Physical	20
Social Studies	40

To qualify for admission to Year 3, an applicant must present:

(1) A minimum Cumulative Grade Point Average (CGPA) of 5.5 on 60 units of course weight which must include the following:

a. EDFDN 201, EDPSY 163, ED PR 151

b. EDACT 274 or CMPUT 161

c. English Language/Literature - 6 units of course weight

d. A minimum of 18 units of course weight in the major area (First Choice). Courses presented should be those outlined in §73.3.

e. A minimum of 15 units of course weight in the Minor area (Second Choice). Courses presented should be those outlined in §73.3.
Applicants presenting less than 15 units of course weight (but more than 9), in the Minor may be considered for selection to the program in their Major (first choice) only.

f. Nine units of course weight in options. Where (b) or (c) is presented as part of (d) or (e), then (f) is increased by the appropriate number of weights.

(2) Satisfactorily complete the Faculty of Education Speech Screen (ED ES 132).

(3) Present evidence of work or service experience with children or youth.

(4) Provide letters of reference from two persons familiar with the applicant's work, personality, and character.

(5) Provide a focused written statement.

(6) An interview may be required.

Selection and admission will be based primarily on the rank order of the CGPA.

Special Admission (Aboriginal Students)

The Faculty of Education is committed to the encouragement of aboriginal students' study toward the BEd degree. The Faculty of Educaiton recognizes that aboriginal applicants have traditionally been under-represented in the teaching field, and in order to assist more aboriginal students to achieve education degrees, the Faculty of Education will name an additional 20 qualified applicants over and above the faculty quota.

Aboriginal students who wish to be considered for these 20 places must meet the selection factors of the route they wish to follow.

72.1.3 Admission with Transfer Credit

(1) A maximum of 60 units of course weight may be granted for work completed at other institutions. Applicants should not expect to receive more than 60 units of course weight (the maximum allowed); but the amount of credit granted will depend upon the program selected, and previous applicable course work.

Credit to a maximum of 24 units of course weight in junior courses taken by correspondence from another recognized university may be allowed, although the actual number will vary with the program. There is no such limitation on courses taken at Athabasca University.

2) Students will be allowed entrance to the Faculty of Education only if they have a satisfactory standing in the faculty or college from which they wish to transfer. The academic records of students who have attended other post-secondary institutions will be examined, and where there is evidence of unsatisfactory performance (CGPA of less than 5.5) such students will not be admitted to the Faculty of Education.

(3) Appeals regarding admissibility or transfer credit should be submitted, in writing, to the Assistant Dean (Student Services).

(4) Students entering the Faculty of Education with transfer credit who expect to teach in Alberta should obtain an evaluation of their present credentials for salary purposes from the Teacher Qualification Service, Alberta Teachers' Association, Barnett House, 11010-142 St., Edmonton, Alberta, T5N 2R1. An evaluation for salary purposes may not necessarily agree with an evaluation for admission purposes.

Schedule for Professional Year
Elementary Route[1]
1991-92

Phase III

Term I (Sept—Dec)	Withdrawal Date[2]
Courses on Campus September 5—October 15	October 9, 1991
Study—October 16	
Exams—October 17, 18	
ED PR 330 (Schools) October 21—December 13	November 25, 1991

1. This schedule is subject to change.
2. Withdrawal dates for four-week practicums will be the 15th day (excluding statutory holidays), and for eight-week practicums the 25th day (excluding statutory holidays).

Schedule for Professional Year
Elementary Route[3]
(Special Education Minors)
1991—92

Phase III Only

Term I (Sept—Dec)	Withdrawal Date[4]
Courses on Campus September 5—September 27	September 20, 1991
EDPSY 361 Orientation September 30	
ED PSY 361 Practicum (Schools) October 1—October 18	October 16, 1991
ED PR 328 (Schools) Special Education October 21—November 8	November 1, 1991
ED PR 329 (Schools) November 12—December 13	December 4, 1991

3. This schedule is subject to change.
4. Withdrawal dates for four-week practicums will be the 15th day (excluding statutory holidays), and for eight-week practicums the 25th day (excluding statutory holidays).

Schedule for Professional Terms
Secondary Route[5]
1991—92

Phase II

Term I (Sept—Dec)	Withdrawal Date[6]	Term II (Jan—Apr)	Withdrawal Date[6]
Courses on Campus September 5—November 6	October 24, 1991	Courses on Campus[7] January 6—March 12	February 24, 1992
Study Period November 7, 8, 12		Study Period March 13, 16, 17	
Final Exams November 13—15		Final Exams March 18—20	
ED PR 353 (Schools) Nov 18—Dec 13	December 6, 1991	ED PR 353 (Schools)[8] March 23—April 24	April 21, 1992

5. This schedule is subject to change.
6. Withdrawal dates for four-week practicums will be the 15th day (excluding statutory holidays), and for eight-week practicums the 25th day (excluding statutory holidays).
7. Classes cancelled for Reading Week: February 24—February 28.
8. Spring Break: as per Local School District.

Schedule for Professional Terms
Secondary Route[9]
1991—92

Phase III: Students whose major is: Biological Sciences

Term I (September—December)	Withdrawal Date[10]
Courses on Campus September 5—October 4	ED SEC 354 September 20, 1991
Exam Period Last Day of Class	
ED PR 370 (Schools) October 7—November 1	
Courses on Campus November 4—November 13	ED SEC 355 November 6, 1991
Exam Period Last Day of Class	
ED PR 370 (Schools) November 14—December 11	November 21, 1991
Courses on Campus December 12, 13	

Students whose major is: Physical Education

Term I (September—December)	Withdrawal Date[10]
Courses on Campus September 5—October 18	EDSEC 349: Sept. 20, 1991 EDSEC 350: October 9, 1991
Exam Period Last Day of Class	
ED PR 370 (Schools) October 21—December 13	November 25, 1991

Students whose major is: English

Term I (September—December)	Withdrawal Date[10]
Courses on Campus September 5—October 11	ED SEC 329 September 20, 1991
Exam Period Last Day of Class	
ED PR 370 (Schools) October 15—December 6	November 19, 1991
Courses on Campus December 9—13	ED SEC 330 October 9, 1991
Exam Period Last Day of Class	

Students whose majors are: Mathematics, Social Studies

Term I (September—December)	Withdrawal Date[10]
Courses on Campus September 5—October 4	ED SEC 339, ED SEC 375 September 20, 1991
Exam Period Last Day of Class	
ED PR 370 (Schools) October 7—November 1	
Courses on Campus November 4—November 15	ED SEC 340, ED SEC 376 November 6, 1991
ED PR 370 (Schools) November 18—December 13	November 25, 1991

Students whose majors are: Art, Mathematics, Music, Second Languages, Social Studies

Term II (January—April)	Withdrawal Date[10]
Courses on Campus January 6—January 31	ED SEC 314, 339, 344, 370, 375 January 21, 1992
Exam Period Last Day of Class	
ED PR 370 (Schools) February 3—February 28	
Courses on Campus (including Reading Week) March 2—March 20	ED SEC 315, 340, 345, 371, 376 March 13, 1992
Exam Period Last Day of Class	
ED PR 370 (Schools)[11] March 23—April 24	April 6, 1992

Students whose major is: Biological Sciences

Term II (January—April)	Withdrawal Date[10]
Courses on Campus January 6—January 31	ED SEC 354 January 21, 1992
Exam Period Last Day of Class	
ED PR 370 (Schools) February 3—February 28	
Courses on Campus (including Reading Week) March 2—March 18	ED SEC 355 March 13, 1992
ED PR 370 (Schools)[11] March 19—April 22	March 26, 1992
Courses on Campus April 23, 24	

Students whose majors are: Business Education, Home Economics, Physical Education

Term II (January—April)	Withdrawal Date[10]
Courses on Campus January 6—February 14	ED SEC 319, 334, 350: January 21, 1992 EDSEC 320, 335, 350: February 7, 1992
Exam Period Last Day of Class	
Reading Week February 17—February 21	
ED PR 370 (Schools) February 24—April 24	March 27, 1992

Students whose major is: Drama

Term II (January—April)	Withdrawal Date[10]
Courses on Campus January 6—February 24	ED SEC 324 January 21, 1992
Exam Period Last Day of Class	
ED PR 355 (Schools) January 27—February 21	February 14, 1992
Courses on Campus (including Reading Week) February 24—March 20	ED SEC 325 March 13, 1992
ED PR 356 (Schools)[11] March 23—April 24	April 21, 1992

Students whose major is: English

Term II (January—April)	Withdrawal Date[10]
Courses on Campus January 6—February 7	EDSEC 329: January 21, 199 EDSEC 330: February 7, 199
Exam Period Last Day of Class	
Reading Week February 10—February 14	
ED PR 370 (Schools)[11] February 18—April 16	March 23, 1992
Courses on Campus April 20—April 24	

Students whose majors are: General Sciences, Physic Sciences

Term II (January—April)	Withdrawal Date[10]
Courses on Campus January 6—January 24	ED SEC 358, 362 January 21, 1992
Exam Period Last Day of Class	
ED PR 355 (Schools) January 27—February 21	February 14, 1992
Courses on Campus (including Reading Week) February 24—March 20	ED SEC 359, 363 March 13, 1992
ED PR 356 (Schools)[11] March 23—April 24	April 21, 1992

9. This schedule is subject to change.
10. Withdrawal dates for four-week practicums will be the 15th day (excluding statutory holidays), and for eight-week practicums the 25th day (excluding statutory holidays).
11. Spring Break: as per Local School District

Schedule for Professional Year
Industrial Arts and Vocational Education Routes[12]
1991—92

Vocational Education Route

Phase II

Term I (Sept—Dec)	**Withdrawal Date**[13]
Courses on Campus September 5—November 15	October 24, 1991
ED PR 351 (Schools) November 18—December 13	December 6, 1991

Phase III

Term II (Jan—April)	
Courses on Campus January 6—January 31	March 6, 1992
ED PR 358 (Schools) February 3—February 28	February 21, 1992
Courses on Campus March 2—March 13	March 6, 1992
Reading Week March 16—March 20	
ED PR 359[15] March 23—April 24	April 21, 1992

Industrial Arts Route

Phase III

Term I (Sept—Dec)	**Withdrawal Date**[13]
Courses on Campus September 5—September 27	Novembr 6, 1991
ED PR 358 (Schools) September 30—October 25	October 21, 1991
Courses on Campus October 28—November 15	November 6, 1991
ED PR 359 (Schools) November 18—December 13	December 6, 1991

Phase II

Term II (Jan—April)[14]	
Courses on Campus January 6—March 20	March 2, 1992
ED PR 351 (Schools)[15] March 23—April 24	April 21, 1992

12. This schedule is subject to change.
13. Withdrawal dates for four-week practicums will be the 15th day (excluding statutory holidays), and for eight-week practicums the 25th day (excluding statutory holidays).
14. Classes cancelled for Reading Week: February 24—February 28.
15. Spring Break: as per Local School District.

72.1.4 Readmission After an Absence of 12 Months or Longer

A candidate returning to the Faculty of Education fter a break of twelve months or longer should contact ie Student Services Office, Room 833, Education South rior to making any application for readmission.

72.1.5 On-Campus Transfer

Note: Quota limits will be applied to on-campus ansfer students (see §72.1.2).

A student transferring into the four-year BEd pro-ram of the Faculty of Education from another faculty ithin the University of Alberta should complete Re-dmission or On-campus Transfer forms and submit ese to the Registrar's Office before the published eadline (see §14.2). Applicants contemplating a change f faculty are encouraged to apply for admission prior to ompletion of a maximum of one year (30 units of ourse weight). Applicants who have completed more an 30 units of course weight should complete the first ndergraduate degree and seek admission to the BEd/D program to complete the requirement for teacher ertification.

Students will be allowed entrance to the Faculty of ducation only if they have a satisfactory standing in the culty from which they wish to transfer.

72.1.6 Transfer of Credits

) **Bachelor of Education (as the only degree):** A student proceeding towards the BEd Degree must complete a minimum of two years (60 units of course weight) after being admitted to and registering in the Faculty of Education. (Students should be aware that because of the highly structured nature of the program, full-time attendance will be mandatory at specific points in the program).

!) **Certification after an Approved Degree:** A student is permitted to enter one of four routes, i.e. Elementary Education, Secondary Education, Industrial Education, or Vocational Education and must complete a minimum of one year (30 units of course weight) after being admitted and registering in the Faculty of Education. A student cannot present for transfer credit any courses normally considered part of a "professional" term or year (normally curriculum courses integrated with practicum) which were completed while registered in another Faculty or at another university.

72.2 Registration Requirements

(1) **Registration Procedure:** The procedure for registration is that set out in §15 of this Calendar.

(2) **Course Load:** The normal course load each term of the Winter Session is 15 units of course weight. Permission to take 18 units of course weight each term may be granted if the student has:

a. a GPA of at least 7.5 on the last 30 units of course weight recorded in the Faculty of Education;

b. a CGPA of at least 6.0, and will meet graduation or certification requirements during the Winter Session in which the overload is requested.

Students registered in Practicum courses (4-10 weeks) are restricted to the normal load of 15 units of course weight per term.

(3) **Full-time and Part-time Registration:** Students should note where as the first two years of the program may be taken on a part-time basis, students promoted to years three and four are expected to register on a full-time continuing basis. Students with special needs will require the permission of the Associate Dean (Undergraduate Studies) to proceed on a part-time basis or to interrupt their program.

(4) **Registration in Condensed Courses** (four-week, six-week and ten-week) during the regular term will be restricted to students who are registered in the associated Practicum courses.

(5) **Changes of Registration** may be made by accessing the On Line Telephone Registration system up until the published deadlines of September 11, 1991 for the first term and full-session courses and January 10, 1992 for second-term courses.

After the above date, students must complete the Notice of Withdrawal/Audit form and obtain the appropriate signatures. Deadlines for such changes will be strictly adhered to (§11 of this Calendar) and in the Schedule for Professional Year/Term in this section.

72.2.1 Education Practicum

(1) Registration in practicum courses is a two-part registration. After registering in the practicum courses using the On Line Telephone Registration system, students must report to the Undergraduate Studies Office, 833 Ed. S. to complete the practicum registration. Students with problems related to health, speech, or any other disability are advised to consult with Dr. A.H. Borys, Assistant Dean (Field Experiences).

(2) Registration in practicum courses beyond ED PR 151 will not be permitted while on academic probation.

(3) Any student who has received a failing grade in two education practicum courses will not be allowed to register in any further education practicum courses and will be required to withdraw from the Faculty of Education. Appeals should be directed in the first instance to Dr. A.H. Borys, Assistant Dean (Field Experiences).

(4) Any student who has withdrawn from a Phase II or III education practicum course must have the approval of Dr. A.H. Borys, Assistant Dean (Field Experiences) in order to register again in the course.

(5) Although special services are regularly provided on campus to assist disabled students, these same services may not be available for off-campus practicum experiences which are required for the BEd degree. The teaching profession places some unavoidable demands upon the teacher with respect to a certain level of physical skills or ability. Students with any doubts should consult with Dr. A.H. Borys, Assistant Dean (Field Experiences).

(6) The Faculty of Education is committed to a regional placement program in which students are encouraged to complete practicums in rural Alberta. An opportunity to undertake a practicum in a rural setting provides valuable experience for student teachers and a broader view of the variety of educational settings. Regional placements are made in school districts beyond a 40 kilometer radius of Edmonton, but are limited to pre-established boundaries so as not to infringe upon the needs of other Faculties of Education in this province. Students wishing rural placements should contact Field Experiences in early September for Term I and early November for Term II.

(7) Students are required to purchase a Practicum Handbook from the University Bookstore prior to the beginning of the practicum. The Practicum Handbook provides specific information about the practicums and outlines the student expectations and procedures.

(8) Students in schools during the practicum are expected to conduct themselves according to The Alberta Teachers' Association Code of Professional Conduct (refer to §73.0) and the University of Alberta Code of Student Behaviour: Conduct and Discipline.

a. Recognize and accept that the welfare of the students is of ultimate concern and that the cooperating teacher has the final responsibility for what occurs in the classroom.

b. Maintain an ethical and professional attitude towards all members of the school community. Become familiar with The Alberta Teachers' Association Code of Professional Conduct. It is expected that this code will be a guideline for your behaviour in the school community.

c. Students are held accountable to these standards and answerable to Dr. A.H. Borys, Assistant Dean (Field Experiences) and the Dean.

(9) The Office of Field Experiences does not use geographical factors and access to transportation as a criteria of making placements in the Edmonton area. Students will student teach anywhere within the Greater Edmonton Metropolitan area including St. Albert and Sherwood Park.

(10) Education Practicum course are not offered during Intersession.

72.3 Student Advising

Undergraduate Studies Office

This unit is an amalgamation of the former Student Records and Field Services office.

Staff will provide assistance in matters related to admission, readmission, program requirements, practicum placements, and similar matters related to student records and practicum.

This office maintains the faculty record of each student's academic record as well as the student teaching reports.

Most queries will be handled by the staff in the Undergraduate Studies Office but when necessary, students will be referred to the appropriate university officer for resolution.

Office of the Associate Dean (Undergraduate Studies)

The Associate Dean is responsible for the overall administration of all matters related to the undergraduate program, and has responsibility for liaison with the colleges and other university matters. The Associate Dean works with the Registrar's Office, Faculty Departments, the Undergraduate Studies Office, and the two Assistant Deans (Undergraduate Studies and Field Experiences) on program related concerns and any problems arising in the administration of Faculty policies and regulations.

Students who are encountering special difficulties are advised by the Undergraduate Studies Office to make an appointment with the Assistant Dean (Undergraduate Studies). She assists students who have problems related to program planning or other problems of an individual nature. Students are required to obtain her approval for certain special requests and are required to consult with her before submitting a formal appeal to the Faculty Academic Appeals Committee.

Dr. A.H. Borys, the Assistant Dean (Field Experiences) is responsible for making practicum placements, including arranging for Practicum Coordinators who provide students with information about practicum programs and counsel them on matters related to student teaching, and for arranging for cooperating teachers and faculty consultants who work with the student on a regular basis throughout the practicum rounds.

Professors of the Faculty

Professors of the Faculty offer advice on academic matters related to fields of study within education or preparation for graduate study. Students are encouraged to consult with professors in the Faculty departments for information about specific courses, discussion of program alternatives, or other academic or professional concerns.

72.4 Academic Standing and Promotional Standards

(1) Academic standing will be assessed on the basis of a cumulative grade-point average (CGPA). Students are expected to maintain a 5.5 minimum CGPA. Students who do not maintain this level of academic performance may be permitted to continue under academic probation or may be required to withdraw.

An initial review of academic performance was be conducted for each student at the end of winter session 1989-90, covering the previous calendar year's work; subsequent reviews will be conducted at the end of each session.

The assignment and re-assignment of categories of academic standing is based on a student's performance in a minimum of 12 units of course weight. If, at the time of review, the student has attempted fewer than 12 units of course weight since the last assignment of a category of academic standing, the review will be deferred and the academic standing assigned at the last review will remain in effect until the next review.

(2) Terms Used in Assessing Academic Standing:

a. **Grade Point Average (GPA):** Grade point average (GPA) is a sessional measure of academic performance. Rules for the computation of the GPA are listed in §16.4(5).

b. **Cumulative Grade Point Average (CGPA):** The cumulative grade point average (CGPA) is a measure of academic performance obtained by computing a grade point average for all sessions attended since Spring 1989. For students readmitted on probation after the requirement to withdraw, the CGPA will be computed from the time of such readmission.

The GPA is printed on the University Transcript. Both averages, the GPA and CGPA, are printed on the Statement of Results at the end of each session.

72.4.1 Categories of Academic Standing

There are three categories of academic standing which are determined for each student on the basis of the CGPA.

Category A: Satisfactory Standing: Students with a CGPA of 5.5 or greater may continue in the program and must maintain a minimum CGPA of 5.5 on the last 90 units of course weight to graduate.

Category B: Unsatisfactory Standing: Students with a CGPA between 4.0 and 5.4 inclusive will be placed on academic probation.

Category C: Extremely Unsatisfactory Standing: Students with a CGPA of 3.9 or less will be required to withdraw.

72.4.2 Academic Probation

(1) A student who is placed on academic probation will be bound by the following requirements:

a. A student must complete 30 units of course weight in the two consecutive terms (September-December and January-April) with a minimum CGPA of 5.5; or

b. complete 24 or 27 units of course weight with a minimum CGPA of 6.0.

c. No failing grades (1, 2, 3, or WF) will be permitted.

d. Registration in practicum courses beyond ED PR 151 will not be permitted while on academic probation.

(2) Failure to meet the probationary requirements:

a. Students failing one or more courses in any term while on probation will be required to withdraw from the Faculty immediately, and all pending registrations will be cancelled by the Faculty office. Students failing to meet the conditions of their probation will have subsequent registrations cancelled.

b. Students will not be allowed to be on academic probation more than once during the BEd degree program. Students who fail to meet the standards and requirements of the probation will be required to withdraw from the Faculty, and will not normally be readmitted to the Faculty.

72.5 Appeals

Faculty decisions regarding academic standing or standing in an individual course can become the subject of an appeal. A student wishing to appeal an academic decision must attempt to resolve the issue first with the professor concerned (if applicable) then with the Department Chair, and if still unresolved, with the Associate Dean (Undergraduate Studies). If the matter remains unresolved, the student may then appeal to the Faculty Academic Appeals Committee.

Further details of the Faculty's appeal procedur can be obtained from the Office of the Associate De (Undergraduate Studies). Certain decisions of the Fa ulty Academic Appeals Committee may be appealed the General Faculties Council Appeals Committee. S §16.8 of this Calendar.

72.6 Reexamination

(1) A student may be permitted a reexamination pr vided that:

a. The performance on the final examination w adversely affected by extenuating circumstance Normally, students who experience persona difficulties at examination time, should consi the instructor or Department Chair before ta ing the examination in order to determine t best course of action.

b. The Associate Dean, in consultation with t Chair of the Department offering the cours indicates that the student's situation warrants reexamination.

(2) Students requesting a reexamination must follo the procedures detailed in §16.5.4 of this Calenda For first term courses, application must b made by January 31. For second or full term course application must be made by July 15.

72.7 Graduation

(1) To receive the Bachelor of Education degree student's program must show a minimum CGPA 5.5 on the last 90 units of course weight. A stude will be allowed to take no more than 12 units course weight beyond the number of units of cour weight normally required for the degree, in order raise the CGPA to the required graduating averag

(2) A student transferring to the BEd program, wi more than 30 units of course weight, from anoth faculty of the University or from another universi or college must obtain a CGPA of at least 5.5 on courses subsequently completed in the Faculty Education and which are credited to the degree.

(3) A student achieving a GPA of 7.5 or higher on t final 60 units of course weight of the degree progra will have the notation "With Distinction" printed the diploma. A student who has taken part of t final 60 units of course weight at another universi may be granted the degree "With Distinction" at t discretion of the Dean.

(4) To receive the BEd degree a student must comple all practicum requirements.

(5) Students expecting to convocate at Spring Conv cation should be aware that all course requiremen must be completed by the end of April. Tho completing degree requirements during Interse sion will graduate in the Fall Convocation.

(6) There are special regulations applying to particul routes of the BEd degree and are detailed in §74 this Calendar.

72.8 Special Regulations

(1) **Transfer from one route to another:** Students wh wish to change their route should consult wi personnel in the Office of the Associate De (Undergraduate Studies). Route changes are pos ble but students must expect to meet all of t requirements of the new route. This may involv additional course work and will involve re-applic tion to the quota of the new program.

(2) **Advance Credits for Certificated Teachers:** No mally one year's credit in the four-year program given for basic teacher education programs.

(3) **Review of Inactive Programs:** A student who BEd program has been inactive for three years who has failed to complete the degree in fifte years may have the program reviewed and, if ne essary, rearranged according to prevailing requir ments.

(4) Established students who expect to receive cre on their University of Alberta program in the Facul of Education for a course completed elsewhe must get prior permission in writing from the Assoc ate Dean (Undergraduate Studies).

2.9 Certification

Alberta teaching certificates are issued by the Di- ctor of Teacher Certification and Development of berta Education. The Faculty of Education recom- ends for certification those students who have completed e necessary requirements. Students on visitor visas ll not be recommended for certification.

To be recommended for the first certificate a stu- nt must obtain a CGPA of at least 5.5 on all courses edited toward the certificate (pertains to After Degree d Vocational Education Route students).

Students completing certification requirements in ecember who wish to receive a recommendation be- re the Faculty of Education Records Review Commit- e meets in late January should contact the Undergraduate udies Office.

Further details of the regulations respecting certifi- tion of teachers in the Province of Alberta may be tained from the Director of Teacher Certification and velopment (Alberta Education), Devonian Building, 160 Jasper Avenue, Edmonton, Alberta.

Note: All persons applying for certification as a acher in Alberta will be subject to the following striction on eligibility:

Except where the Minister of Education decides otherwise, the Registrar for Alberta Education shall not issue a teaching certificate to:

a. a person who has been convicted of an indictable offence under the Criminal Code; or

b. to a person whom the Registrar has reason to believe should not be issued a certificate.

Applications for a teaching certificate shall be directed to the Registrar. As part of the application process, applicants will be asked whether they possess a criminal conviction. If the response is yes, the nature of the conviction and when and where they were convicted must be detailed.

The Registrar shall refuse to issue a teaching certificate to any applicant possessing an indictable criminal conviction. The Registrar may refuse to issue a teaching certificate to an applicant possessing a criminal conviction of a nature deemed unsuitable for teaching children or for any other reason. Applicants may appeal the decision of the Registrar to a Certification Appeal Committee established by the Minister. Appeals must be made in writing within 30 days of being advised of the Registrar's decision to not issue a certificate.

For additional information please contact the Registrar, Teacher Certification and Development Branch of Alberta Education at 427-2045.

3 Professional Standards

he Alberta Teachers' Association Code of rofessional Conduct

Relation to Pupils

) The teacher teaches in a manner that respects the dignity and rights of all persons without prejudice as to race, religious beliefs, color, sex, physical characteristics, age, ancestry, and place of origin.

) The teacher is responsible for diagnosing educational needs, prescribing and implementing instructional programs and evaluating progress of pupils. The teacher may not delegate these responsibilities to any person who is not a teacher.

) The teacher may delegate specific and limited aspects of instructional activity to non-certificated personnel, provided that the teacher supervises and directs such activity.

) The teacher treats pupils with dignity and respect and is considerate of their circumstances.

) The teacher may not divulge information about a pupil received in confidence or in the course of professional duties except as required by law or where, in the judgment of the teacher, to do so is in the best interest of the pupil.

) The teacher does not accept pay for tutoring his or her own pupil in the subjects in which the teacher is responsible for giving classroom instruction to that pupil.

) The teacher may not take advantage of a professional position to profit from the sale of goods or services to or for pupils in the teacher's charge.

In Relation to School Authorities

(8) The teacher protests the assignment of duties for which the teacher is not qualified or conditions which make it difficult to render professional service.

(9) The teacher fulfills contractual obligations to the employer until released by mutual consent or according to law.

(10) The teacher provides as much notice as possible of a decision to terminate employment.

(11) The teacher adheres to agreements negotiated on the teacher's behalf.

In Relation to Colleagues

(12) The teacher does not undermine the confidence of pupils in other teachers.

(13) The teacher criticizes the professional competence or professional reputation of another teacher only in confidence to proper officials and after the other teacher has been informed of the criticism.

(14) The teacher, when making a report on the professional performance of another teacher, does so in good faith and, prior to submitting the report, provides the teacher with a copy of the report.

(15) The teacher does not take, because of animosity or for personal advantage, any steps to secure the dismissal of another teacher.

(16) The teacher recognizes the duty of protest through proper channels, administrative policies and practices which the teacher cannot in conscience accept; and further recognizes that if administration by consent fails, the administrator must adopt a position of authority.

(17) The teacher as an administrator provides opportunities for staff members to express their opinions and to bring forth suggestions regarding the administration of the school.

In Relation to the Profession

(18) The teacher acts in a manner which maintains the honor and dignity of the profession.

(19) The teacher does not engage in activities which adversely affect the quality of the teacher's professional service.

(20) The teacher submits to the Association disputes arising from professional relationships with other teachers which cannot be resolved by personal discussion.

(21) The teacher makes representation on behalf of the Association or members thereof only when authorized to do so.

(22) The teacher accepts that service to the Association is a professional responsibility.*

*From *The Alberta Teachers' Association Members' Handbook* by the ATA, 1988, Edmonton, AB.

74 Programs of Study

74.1 The Degree of BEd

Underlying Principles

The following principles underlie teacher preparation programs in the faculty:

(1) The BEd degree consists of a minimum of 120 units of course weight.

(2) A number of alternative programs should be available in order to accommodate the individual differences in the motivation, knowledge, career objectives and preferred learning styles of students and the differing perspectives, preferences and approaches in the field of education which are reflected in the Faculty.

(3) The activities, courses and programs of the Faculty should be satisfying and meaningful to students.

(4) The education of a teacher is a continuous, life-long process. In addition to emphasizing basic or fundamental preparation, the initial pre-service experience should aid the development of attitudes which will encourage self-evaluation and improvement and the acquisition of the knowledge and skills which will facilitate life-long learning.

(5) Skills and knowledge essential to successful teaching should be an important part of all of the Faculty's teacher preparation programs. These various elements are identified within, and guaranteed by, the component model.

(6) Teacher preparation is a multi-partner, multi-faceted endeavor. The various partners, including all departments of the Faculty, numerous other departments of the University, and the profession, through their collective involvement, should provide intending teachers with essential practical skills, a knowledge of theory and its relationship to practice, liberal studies and subject-matter competence.

(7) Intending teachers should experience in their professional preparation, exemplary models of a variety of teaching styles and modes of effective instruction. This implies that differing methodologies and techniques should be utilized in the education of teachers in the Faculty.

(8) The Faculty of Education is committed to the provision of quality teacher preparation programs and recognizes the importance of continuously monitoring, evaluating and refining its offerings so that they adequately reflect changes in society and advances in knowledge.

Program Planning

At the time of admission, the Faculty of Education provides students with a copy of their program. From this students are expected to be able to identify course requirements to be met for the BEd degree.

It is the candidate's responsibility to be acquainted with all rules and regulations and to meet the requirements for the degree as outlined. Any exceptions to the requirements must be approved in writing by the Associate Dean (Undergraduate Studies) with one copy to be placed in the candidate's file and one to be given to the candidates.

Students entering the Faculty in September 1987 or later are required to complete a 3-credit educational computing science course or equivalent before graduation. Courses which currently satisfy the requirement are CMPUT 161 or EDACT 274. One of these two courses (or equivalent) should be completed as early as possible in the program. Students who have completed another course, or plan to take another course which appears to be equivalent must inquire at the Undergraduate Studies Office to determine whether or not the course meets the requirement.

Students must register in one of the following routes: Elementary, Secondary, Industrial Arts or Vocational Education.

For holders of approved degrees, §74.8 gives details concerning the requirements for admission and certification.

Students who hold a Professional Teaching Certificate and an approved degree should consult §74.9 for information about advanced study in Education.

74.2 Elementary Education Route

Admission:

Beginning September 1991, student quotas will exist for entry to the third year of the Elementary Route of the BEd degree program for students who have not completed ED PR 310 prior to September 1991.

In order to qualify for admission to the third year of the program students must present all of the following:

(1) A minimum Cumulative Grade Point Average (CPGA) of 5.5 or equivalent on 60 units of course weight which must include the following:

a. EDFDN 201 (3 units of course weight)
EDPSY 163 (3)
ED PR 151 (3)

b. EDACT 274 or CMPUT 161 (3)

c. Elements (27 units of course weight)
Language/Literature (6)
Mathematics (3)
Social Science (3)
Natural Science (3)
Fine Arts (3)
Physical Education (3)

d. Non-Education courses (21 units of course weight)

A total of 12 units of course weight of the specified elements and unspecified Non-Educaiton courses must be at the senior level. Students who are interested in specific focus areas must present courses appropriate for these.

(2) Satisfactorily complete ED ES 132.

(3) Present evidence of work or service experience with children or youth.

(4) Provide letters of reference from two persons familiar with the applicant's work, personality, and character.

(5) Provide a focused written statement.

(6) An interview may be required.

Selection and admission will be based primarily on the rank order of the CGPA.

74.2.1 General

The Department of Elementary Education is committed to preparing teachers through the elementary school level who are generalists, *i.e.* teachers competent to teach all subjects and able to facilitate the learning of all children within our mulitcultural society. The Department believes that to be a teacher is to make the choice to be a life-long learner and facilitate the learning of others. The instructional program is based on the belief that teaching proficiency is dependent upon knowledge of subject matter, pedagogy, critical thinking and problem-solving skills, professional ethics, sensitivity to and respect for children and the sociocultural contexts in which they live, and an understanding of schooling in the social/political/economic environment in which they live. The development of the attributes, the fostering of a sense of community, and the development of a strong professional commitment reflected in a personal philosophy of education are the intent of the Department's program of studies.

Components of the BEd — Elementary Route

I. Non-Education

The four-year program must include 48 units of course weight chosen from outside of the Faculty of Education. Twelve of these must be senior courses, and 27 must be chosen from the courses categorized according to the seven elements:

Element I- Language/Literature (6)
Element II- Mathematics (3)
Element III- Social Science (3)
Element IV- Natural Science (3)
Element V- Fine Arts (3)
Element VI- Canadian Studies (6)
Element VII- Physical Education (3)

The remaining 21 of the 48 units of course weight should be selected from the course offerings of a faculty other than Education. Courses listed for the seven elements may also be considered. Further information is available from either the Department of Elementary Education or the Undergraduate Studies Office.

Element Requirements for Non-Education Component

If specific courses are listed, only those will be accepted for completion of an element. Where broad areas are listed, any course selected from an area is acceptable. Students must meet prerequisite requirements of any course selected.

Element I- Language/Literature (6 units of course weight required)
Select from: CLASS 102, 160, 201, 359, 360
Comparative Literature
ENGL 101, 104, 105
LING 101, 203, 204, 319

Element II- Mathematics (3 units of course weight required)
Select from: Mathematics (MATH 160 recommended)
STAT 141
PHIL 125

Element III - Social Sciences (3 units of course weight required)
Select from: Anthropology
Economics
Geography (Faculty of Arts)
History
Philosophy
Political Science
Sociology

Element IV- Natural Sciences (3 units of course weight required)
Select from: Astronomy
Biology
Botany
Chemistry
Entomology
Geology
Genetics
Geography (Faculty of Science)
HIST 396
Meteorology
PHIL 266/310
Physics
Plant Science
Soil Science
Zoology

Element V- Fine Arts (3 units of course weight required)
Select from: Art and Design
CL TX 151
DANCE 340, 433
DRAMA 101, 102, 149
F ST 200, 205, 311
MUSIC 100, 101, 150, 151

Element VI- Canadian Studies (6 units of course weight required)

The purpose of this element is to increase student knowledge of the cultural heritage and physical environment of Canada. Courses may be found in a wide variety of disciplines, such as Anthropology, Art History, Canadian Studies, Drama, Economics, English, Geography, Geology, History, Music, Political Science and others. The term 'Canada', 'Canadian', or a term referring to a region of Canada should normally occur in the course title or Calendar description of any course to be credited towards this element.

Students may wish to consult the Faculty of Arts section of the Calendar under the title *Canadian Content Coordinate Requirements* for a quick reference to these courses. Courses other than those listed in this section are also acceptable.

Element VII- Physical Education (3 units of course weight required)
Select from: PESS 292, 293 PAC 320, 361

II. Basic Education

Courses in three departments, Educational Foundations, Educational Psychology and Educational Administration, constitute the Basic Education component.

Study in Educational Foundations is designed to provide students with a socio-historical understanding of Canadian education and an opportunity to study important theoretical questions through one of the recognized disciplines.

Required study in Educational Psychology focuses on child/adolescent development and learning theory and their implications for diagnosing the needs of learners.

In Educational Administration study is concerned with the legal, organizational and professional aspects of a teacher's role.

III. Elementary Education Curriculum and Instruction

In this component, courses focus on general teaching strategies, curriculum and instruction related to specific subject areas, and the shaping of these ideas as related to particular groups of children.

In year three all students are required to take introductory courses in the following subject areas related to the elementary school curriculum:

(1) Communications through Language and Mathematics in the Elementary School (6 units of course weight)

(2) Expressive Arts in the Elementary School—art, movement, and music (6 units of course weight)

(3) Environmental Studies in the Elementary School—health, science, and social studies (6 units of course weight)

(4) Reflective Teaching in the Elementary School (3 units of course weight)

IV. Field Experiences/Practicum

There will be field experiences throughout the program and three levels of practicum. The practicum, a total of 13 weeks, begins in year I with ED PR 151, and is completed in two professional terms later in the program, with ED PR 310 one term and ED PR 328/329 or 330 in the remaining professional term. Admission to ED PR 328/329 or 330 is based on successful completion of ED PR 310 and 16 units of course weight of introductory courses noted in §74.2.1 (III) above.

V. Other Requirements

(1) Students must select an area of focus that has been designed to help develop further competence in an area of school instruction, or to develop a focus which would integrate learnings from several disciplines. Focus areas offered may vary each year. Students should check with the Department of Elementary Education regarding offerings for specific years.

(2) Senior education requirement: Courses have been designed to provide students with a wide range of opportunities for a synthesizing and integrating experience, combining elements of both reflection and action. Students choose one of EDFDN 493, 495 or EDPSY 493, 495.

(3) The Education option courses allow students to choose any senior course in Education.

In summary, the program consists of a total 120-123 units of course weight in the five program components.

The following program will apply to all students who are admitted under the quota regulations beginning September 1991.

Students who completed Ed PR 310 or equivalent prior to September 1991 will normally complete their program as outlined in the 1990-91 Calendar (Generalist Programs). In some instances students in existing programs will need to consult an advisor to determine whether any modifications may be necessary due to course availability.

First and Second Years (60 units of course weight)

The following courses must be completed in the first two years and no later than the end of the winter session of the year for which entry to the third year is being requested. Students are advised to complete specific requirements, e.g. Elements, before selecting non-specified courses.

First Year
ED ES 132 (0) must be completed in first year
ED PR 151 (3)

Either Year
EDFDN 201 (3)
EDPSY 163 (3)
EDACT 274 or CMPUT 161 (3)
Non-Education—Element I (6)
Non-Education—Element II (3)
Non-Education—Element III (3)
Non-Education—Element IV (3)
Non-Education—Element V (3)
Non-Education—Element VI (6)
Non-Education—Element VII (3)
Non-Education courses (21)*

*Students should note that some focus areas require the use of one or more of the non-education courses as prerequisites, as follows:

Early Childhood Education
a. one of ANTHR 307, FAM 350, or SOC 271
b. one of ENGL 388, 389
c. one of DANCE 433, PESS 492
d. one additional course from b. or c.

English as a Second Language
An approved course in introductory linguistics.

Intercultural Education
Complete the Anthropology, Sociology, and Linguistics course as directed in §74.2.2

Third and Fourth Years (60 units of course weight)

Under revision. Details will be provided when program changes have been approved.

74.2.2 Intercultural Education Program

The BEd program provides an opportunity for students to undertake special studies in Intercultural Education. These studies are designed to prepare teachers for service in areas where other cultures prevail, such as Indian, Métis, and Eskimo communities, or third-world countries. The student must complete a prescribed pattern of courses and must be prepared to accept a practicum experience in a cross-cultural setting.

During the four years of the BEd program, the Intercultural Education student must complete a minimum of 21 units of course weight to meet the following requirements:

(1) **Social Sciences - Linguistics:** Any combination or sequence of courses from the following list to a minimum of 9 units of course weight:

a. **Anthropology**: ANTHR 101 (3), ANTHR 150 (3), ANTHR 201 (3), ANTHR 307 (3), ANTHR 308 (3), ANTHR 327 (6);

b. **Sociology**: SOC 100 (3), SOC 101 (3), SOC 261 (3), SOC 368 (3), SOC 300 (3), SOC 437 (3);

c. **Linguistics**: LING 101 (3), or LING 203 (3).

The above courses should be selected as Non-Education Element Requirements:

Either
a. ED EL 450 (3) (note prerequisite requirement)
b. ED EL 461 (3) or ED EL 460 (3)

c. EDFDN 422 (3) or EDFDN 431 (3), or EDFDN 432 (3), or EDFDN 474 (3)

d. EDFDN 410 (3)

or

a. EDFDN 410 (3)

b. EDFDN 422 (3) or EDFDN 431 (3), or EDFDN 432 (3), or EDFDN 474 (3)

c. Special Interest Area. Six units of course weight selected from courses in a special interest area, such as Native Canadian, Latin American, or Far Eastern Studies. Courses taken in this area must be approved by the Coordinator of Intercultural Education.

Note A: EDFDN 410 requires either EDFDN 310 or anthropology prerequisite, and ED EL 450 requires a nguistics prerequisite.

Note B: Intercultural Education students should take)FDN 310 or 360 as part of their Basic Education quirements.

At the request of the student, the intercultural focus ll be recognized by a letter from the Dean stating that a student has completed the course requirements in tercultural Education.

Any student interested in Intercultural Education is ivised to consult the Coordinator of the Intercultural ogram, Department of Educational Foundations. The ordinator must approve all programs.

4.3 Secondary Education Route

4.3.1 General

In September, 1991, the Department of Secondary ducation will impose a quota on admission to year 3 of e program.

Students who have completed ED PR 353 (Phase and the associated courses of Phase II should refer to e program outline in the 1990-91 Calendar or contact e Student Programs Office.

The Secondary Education route provides the use of o professional terms. The first professional term will ke place during year three or four. Four courses will be ken during the first ten weeks of the term and will be llowed by a four week full-day practicum experience hase II).

The second professional term will take place during ar three or year four. Three courses will be taken on mpus interspersed with a full day eight-week practicum perience.

For those students who have specialization courses nich are comprised almost entirely of full-year courses, g., Art and Drama, it may be necessary to take Phase and Phase III of the practicum during the same ademic year, that is, Phase II during term one and ase III during term two.

Note: All students who require or plan to take full ar courses should take these courses in year one or o where possible.

4.3.2 Majors - Secondary Education Route

Six full-course equivalents (36 units of course weight) r a major are required on the secondary education ute. Students must choose a major from the following:

Art
Biological Sciences
Business Education
Drama
English
General Sciences
Home Economics
Mathematics
Modern Languages (French, German, Slavic Languages)
Music
Physical Education
Physical Sciences
Social Studies

Provision is also made for a minor. It is expected at all students will choose a minor from either a bject discipline, or an area identified as a non-subject ea specialization.

Students will choose a minor from the subject areas s listed under the majors. A minimum of 18 units of urse weight in the subject area will be required for the inor. Three units of course weight of the 18 units of urse weight total may be comprised of a Curriculum nd Instruction course in the field of specialization. The maining 15 units of course weight will be offered by culties other than the Faculty of Education.

Minors that are not subject specific have been developed. Such programs consist of clusters of courses (up to a maximum of 18 units of course weight) distributed throughout the four year program.

The following component model will illustrate the areas and credits required for a BEd degree in Secondary education.

Component	Units of Course Weight
Basic Education	
EDPSY 163 and 371	6
EDFDN 201 and one of: EDFDN 310, 340, 341, 350, 360, 361	6
EDADM 401	3
	15
Practicum*	
ED PR 151 (Phase I)	3
ED PR 353 (Phase II)	3
ED PR 354, 355, 356 or ED PR 354, 370 (Phase III)	9
	15

***Note:** Students enrolled in Practicum courses may have the following changes in their programs:

(1) Final examinations in concurrent lecture courses may be scheduled outside of designated examination weeks.

(2) Students may be required to student teach during designated examination weeks.

(3) Reading Week (Term II) may be moved to coincide with school systems' Spring Break.

Curriculum and Instruction	
EDSEC 200	3
EDSEC (Major area - 300 level)	3
EDSEC (Major area - 300 level)	3
	9
Language and Literature	
Six units of course weight chosen from:	
CLASS 102, 201, 359, 360	
C LIT 100, 201, 202, 271, 272	
ENGL 101, 104, 105	
	6

Note: If one or more of the above courses is required for your major or minor area, substitute the equivalent 3 or 6 units of course weight with a General Studies Option.

Major	
36 units of course weight	36
Minor	
15 units of course weight	15
3 units of course weight (EDSEC minor) or Subject area specialization	3
	18
Senior Education Requirement	
One of: EDFDN 493, 495; EDPSY 493, 495	3
Options	
18 units of course weight:	
General Studies	3
Unspecified	12
Education	3
	18
	120

Note: General Studies: Courses to fulfill this component must be selected from areas outside the major and minor and outside the Faculty of Education. Unspecified: Courses to fulfill this component may be selected from those offered by any department of the University.

ED PR 151 (Phase I), EDFDN 201, and EDPSY 163 can be taken either during Year 1 or Year 2 of the program, but preferably during Year 1. EDPSY 371 and the 300 level specified course in Educational Foundations will be taken concurrently with EDSEC 200 and Phase II practicum during either Year 3 or Year 4, preferably Year 3. Phase III practicum and associated Curriculum and Instruction courses (integrated program) will be taken during Year 3 or Year 4, preferably term two of Year 3 or term one of Year 4. The Senior Education Requirement course and EDADM 401 will be taken where possible following the integrated program, preferably during Year 4. The major, minor, and options will be distributed throughout the four year program (excluding professional terms).

Outlined below for each major and each minor are:

(1) A list of courses, elements of which should be chosen to complete requirements for the major component.

Note A: 36 units of course weight are required on the major component and 18 units of course weight are required on the minor component over the four year program

Note B: Unless otherwise indicated, the first course(s) listed are the recommended registration for the first year.

(2) Those Curriculum and Instruction courses which are required in the major. (Note: Curriculum and Instruction courses on the major are normally taken with ED PR 354, 355, 356, 370.)

74.3.3 General Program Outline

Year 1 and 2
EDFDN 201 (3)
EDPSY 163 (3)
ED PR 151 (3)
EDACT 274 or CMPUT 161 (3)
English Language/Literature (6)
Major: (18)*
Minor: (15)**
Options: (9)
* First Choice
**Second Choice

When making application to the third-year quota, applicants presenting less than 15 units of course weight (but more than nine) in the MINOR will be considered for selection to the program in their Major (first choice) only. Applicants whose minor is Secondary Special Education; Intercultural Education; Foods and Nutrition; Clothing and Textiles; Religious and Moral Education; Educational Media; English as a Second Language; or Environmental Education will be considered for selection to the program in their Major (first choice) only.

(Admission to quota occurs at this point)

Year 3
Major (6)
Minor (3)
Option (3)
EDSEC 200* (3)
EDPSY 371* (3)
EDFDN 3—* (3)
ED PR 353* (3)
EDSEC (Minor)* (3)

Year 4
EDSEC (major)* (3)
EDSEC (major)* (3)
ED PR 354* (3)
ED PR 370* (6)
Major (6)
Sr Education Requirement (3)
EDADM 401 (3)
Option (3)
*these courses must be taken concurrently.

Art

Major

(1) a. ART 131

b. ART H 101/102 or 281/282

c.&d. 12 units of course weight in art and design

e. 6 units of course weight chosen from SOC 461, F ST 205, PSYCO 495, ANTHR 427, 428, PHIL 282, 380, CLASS 367, 368, NS 360.

f. 6 units of course weight chosen from e. above or Art and Design

(2) EDSEC 314 and 315

Minor

(1) ART 131

(2) ART H 101/102

(3) 6 units of course weight from art and design

or

3 units of course weight from art and design plus EDSEC 214.

Biological Sciences

Major

(1) a. CHEM 160

b. BIOL 100 and GENET 197

c. BOT 199 and ZOOL 120

d. BIOL 201 and 202

e.&f. 12 units of course weight from senior offerings in Biology, Botany, Biochemistry, Entomology, Genetics, Microbiology, Zoology.

(2) EDSEC 354 and 355

Note: Students must register in (a) and (b) in first year.

Minor

(1) BIOL 100 and GENET 197

(2) BOT 199 and ZOOL 120

(3) 6 units of course weight chosen from senior courses in the biological sciences, or 3 units of course weight chosen from senior courses in the biological sciences and 3 units of course weight chosen from EDSEC 266, 254, 454, 463.

Business Education

Note: Typing 20 is the prerequisite for EDBUS 341. ECON 101, 102 are the prerequisites for ACCTG 311. ACCTG 311 is the prerequisite for EDBUS 357. EDBUS 341 or EDSEC 219 is the prerequisite for EDSEC 319/320.

Major

(1) a. ECON 101 and 102

b. ACCTG 311 and LEG R 301

c. ORG T 301 and 311

d. EDBUS 341 and EDBUS 357

e.&f. 12 units of course weight from: EDBUS 343, 351, 355, 460, 461, 481, 483, 485; CMPUT 357; ECON 318, 319; FIN 301; IND R 301, 432; LEG R 402; MANEC 301, 413; MARK 301; MATH 113 or 114; FAM 440, 460; LAW 302, 303, 304; SOC 225, 327, or other courses in Business or Computing Science.

(2) EDSEC 319 and 320.

(3) EDBUS 485 or one year of previous work experience in business.

Minor

Note: Typing 20 is a prerequisite for Business Education Minor. Typing 20 and ACCTG 311 are prerequisites for EDSEC 219.

(1) ECON 101 and 102

(2) ACCTG 311 and LEG R 301

(3) EDSEC 219, and a course in Business or Computing Science.

Drama

Major

(1) a. DRAMA 149 and 247

b. DRAMA 191 and DRAMA 321

c. DRAMA 323 and 353

d.,e.&f. A theatre history course and 12 units of course weight in approved Drama courses from the following: DRAMA 359, 383, 425, 442, 459, 483, 492.

(2) EDSEC 324 and 325.

Minor

(1) DRAMA 247

(2) DRAMA 149 and DRAMA 321

(3) DRAMA 191 and 323

(4) EDSEC 224

English

Major

(1) a. ENGL 101 or equivalent

b.&c. 12 units of course weight chosen from senior English courses, 3 units of course weight of which must be in Canadian literature

d.,e.&f. 18 units of course weight chosen so that at least 9 are from ENGL 212, 298, 299, 311, 312, 399; LING 101, 303, 382; and the remainder are from other senior English courses or CLASS 359, 360; C LIT 201, 202, 371, 372; F ST 200; DRAMA 247, 442; LIS 515.

(2) EDSEC 329 and 330

Note: First year students should register in (a).

Minor

(1) a. ENGL 101 or equivalent

b. 6 units of course weight from Senior English

c. 6 units of course weight from senior English courses or ED ES 348, 349, EDSEC 229, 429, 430.

General Sciences

Major

(1) a. CHEM 100 or 104

b. PHYS 105 and 106

c.&d. 12 units of course weight from BIOL 100, 201; BOT 199; GENET 197; ZOOL 120

e. GEOL 102 and 103 (or equivalent)

f. 6 units of course weight from: Biology (BIOL 201 and 202 are recommended), Chemistry, Astronomy, Geology, Meteorology, Physics, Physical Geography, Botany, Entomology, Genetics, Microbiology or Zoology

(2) EDSEC 358 and 359

Note A: First year students must register in a. and b. above to avoid timetable problems in later registrations.

Minor

(1) 15 units of course weight from the following four groups with at least three units of course weight from three of the groups:

a. BIOL 100; BOT 199; GENET 197; ZOOL 120

b. CHEM 100 or 104

c. PHYS 105 and 106

d. GEOL 102/103

(2) One of EDSEC 254, 266, 458, 463, 466 or 3 units of course weight from (1) above.

Home Economics

Major

(1) a. CL TX 155 and CL TX 150 or 306

b. CL TX 160 and CL TX 270

c. FAM 211 and 430 (FAM 430 requires a prerequisite of ECON 101/102 or completion of an approved Economics module from the University Bookstore)

d. One of FAM 320 or 431; and FAM 215 or 310

e. FD NU 320 and 321

f. FD NU 225 and FD NU 227.

Note: FD NU 320/321 have a prerequisite of CHEM 160. CL TX 155 has a prerequisite of Clothing and Textiles 20 or equivalent. Consult Department of Secondary Education for alternatives.

(2) EDSEC 334 and 335

A. Minor - Foods and Nutrition

(1) CHEM 160

(2) FD NU 320, 321

(3) 6 units of course weight from: FD NU 323, 225, 227, 427, 429, FD SC 200, EDSEC 234.

Note: It is recommended that students wishing to minor in Foods and Nutrition begin by taking CHEM 160 in their first year.

B. Minor - Clothing and Textiles

Three units of course weight from each of the following groups:

(1) CL TX 155 and 270

(2) CL TX 150 or 151

(3) 6 additional units of course weight in Clothing and Textiles or three additional units of course weight in Clothing and Textiles and EDSEC 234.

Note: CL TX 155 has a prerequisite of Clothing and Textiles 20 or equivalent. Consult Department of Secondary Education for alternatives.

C. Minor - Family Studies

(1) FAM 211 or SOC 271

(2) FAM 320 or 347

(3) 12 units of course weight from: FAM 215, 322, 380, 430; ECON 101, 102; EDSEC 234 or an approved Curriculum and Instruction course.

Note: FAM 430 has a prerequisite of ECON 101/102 or completion of an approved Economics module available from the University Bookstore.

Mathematics

Major

(1) a. MATH 113 or 114 and MATH 115

b. STAT 141

c. MATH 120 and MATH 223

d. MATH 241; MATH 242 or 340

e.&f. 15 units of course weight from MATH 121, 153, 214, 215, 242, 262, 263, 323, 324, 340, 421, 423; CMPUT 161, 162; or any senior Mathematics or Computing Science courses; PHYS 141, 143; or any approved senior science courses.

(2) EDSEC 339 and 340

Minor

(1) MATH 113 or 114 and 115

(2) MATH 241

(3) 6 units of course weight from MATH 120, 223, STAT 141.

(4) EDSEC 239

Modern Languages - French

Major

(1) a. FREN 150 or 152

b. FREN 250 (for those who took FREN 150) or FREN 350 (for those who took FREN 152).

c. R LIN 372

d. FREN 222 and 223, or FR CA 222 and 223

e&f. 15 units of course weight approved by a subject area adviser.

(2) EDSEC 370 and 371

Note: Students who hold credit in French 30 should register in FREN 150 and FREN 250. All others consult subject area adviser.

Minor

(1) FREN 150 or 152

(2) FREN 250 or 350*

(3) 3 units of course weight chosen from: R LIN 372, FREN 222, 223, FR CA 222, 223

(4) EDSEC 270**

* FREN 350 should be taken only if FREN 150 was taken in item (1).

** Students whose major is a second language should consult an adviser in the Department of Secondary Education before registering for this course.

Modern Languages - German

Major

(1) a. One of GERM 150, 151

b. GERM 330 or 340

c. GERM 350

d. GERM 306 and 307

e.&f. 12 units of course weight at the senior level.

(2) EDSEC 370 and 371

Minor

(1) GERM 150 or 151

(2) GERM 330 or 340

(3) GERM 350

Note: Students are advised to take EDSEC 270.

Modern Languages - Ukrainian

Major

(1) a. UKR 150

b. UKR 401 and 402

c. UKR 311 and 312

d. UKR 326

e. SLAV 301 and UKR 455

f. Two of: UKR 411, 412, 422, 423, 425, 426, 453, 454

(2) EDSEC 370 and 371

Note: Students who wish to follow Ukrainian, but who do not have Ukrainian 30 should consult with the Department of Slavic Languages for an alternative program.

Minor

(1) UKR 150

(2) UKR 401 and 402

(3) 3 units of course weight chosen from UKR 311, 312, 326, 411, 412, 422, 423, 425, 426, 453, 454, 455, SLAV 301.

(4) EDSEC 270

Modern Languages - Other Languages

Note: It may be possible to arrange a program for students who intend to teach a language other than those listed above, and for which a 10-20-30 sequence exists in the school system.

Music

Major

(1) a. MUSIC 150 and 151
b. MUSIC 124
c. MUSIC 220
d. MUSIC 209 and 211
e. MUSIC 216 and 217
f. MUSIC 230
g. MUSIC 315 and one of: MUSIC 416, 417 or MUSIC 431

(2) EDSEC 344 and 345

Students are strongly urged to take MUSIC 231 as an option.

First year students will take MUSIC 150 and 151 and MUSIC 124. Entry to MUSIC 150/151 normally depends on demonstrated theoretical competence while entry to MUSIC 124 normally depends on the successful passing of an audition during May, June, and August preceding the student's first year. Under certain circumstances the first year requirements may be waived or postponed until second year.

Students who have not passed the audition and taken MUSIC 124 by the end of their second year will not be allowed to continue in the Music major.

Students wishing greater specialization in secondary music education than what is provided for by the above program should consult with the faculty adviser in the Department of Secondary Education.

Minor

(1) MUSIC 150

(2) MUSIC 101

(3) MUSIC 201

(4) One of: MUSIC 165, 115, 213

(5) EDSEC 244

Physical Education

Major

(1) a. PESS 294
b. PESS 308 and 309
c. PESS 150
d. PESS 110
e. PESS 180

(2) **Activity Courses (PAC)**

Activity courses are those which focus on a physical activity or group of activities.

Level I courses focus specifically on personal skill acquisition and thus the evaluation process in these courses is designed to assess personal skill.

Level II activity courses focus specifically on the analysis and instruction of a physical activity or group of activities. Because these courses are aimed at teaching, students are encouraged to take as many as possible.

In total, each major is required to complete 18 activity units of course weight prior to graduation with a minimum of 1.5 units of course weight selected from each of the five activity dimensions.

a. Aquatics
Level I - PAC 100
Level II - PAC 300, 400
b. Dance
Level I - DAC 155, 160
Level II - Dance 340, 350, DAC 355, 360
c. Games
Level I - PAC 111, 112, 113, 114, 117, 118, 131, 133, 134, 135, 137, 140
Level II - PAC 311, 312, 313, 314, 317, 318, 320, 337
d. Gymnastics
Level I - PAC 160
Level II - PAC 360, 361, 362
e. Individual Activities
Level I - PAC 145, 154, 163, 166, 170, 171, 172
Level II - PAC 354, 370

(3) EDSEC 349 and 350

Note A: PESS 120 and PESS 260 are open to majors if offered during Intersession. These courses can be taken as open options.

Note B: It is recommended that PESS 180 be taken in Year 3 or 4.

(4) Options: PESS 209, PESS 304, PESS 401, PESS 404, PESS 408.

Minor

(1) PESS 294

(2) **Activity Courses (PAC)**

Activity courses are those which focus on a physical activity or group of activities.

Level I courses focus specifically on personal skill acquisition and thus the evaluation process in these courses is designed to assess personal skill.

Level II activity courses focus specifically on the analysis and instruction of a physical activity or group of activities.

In total, every minor must present 12 activity units of course weight prior to graduation with a maximum of 3 units of course weight selected from any one of the seven activity dimensions.

a. Aquatics
Level I - PAC 100
Level II - PAC 300, 400
b. Dance
Level I - DAC 155, 160
Level II - DANCE 340, 350, DAC 355, 360,
c. Games
Level I - PAC 111, 112, 113, 114, 117, 118, 131, 133, 134, 135, 137, 140
Level II - PAC 311, 312, 313, 314, 317, 318, 320, 337
d. Gymnastics
Level I - PAC 160
Level II - PAC 360, 361, 362
e. Individual Activities
Level I - PAC 145, 154, 163, 166, 170, 171, 172
f. Physical Fitness - PESS 110
g. Outdoor Pursuits - PESS 180

(3) EDSEC 249

Physical Sciences

Major

(1) a. CHEM 104
b. PHYS 141/143 or 105/106
c. CHEM 260
d. 6 units of course weight from PHYS 200, 301, 302
e. 6 units of course weight from senior Chemistry or senior Physics
f. 6 units of course weight, approved by subject area adviser, from: Astronomy, Geology, senior Physics, senior Chemistry, or any other physical science

(2) EDSEC 362 and 363

Note: Corequisite for (a) and (b): MATH 113/115 as non-education option or math minor.

Minor

(1) CHEM 104

(2) PHYS 141/143 or PHYS 105/106.

(3) 3 units of course weight of senior Physics or senior Chemistry

(4) One of EDSEC 266, 462, 463, 466, or 3 units of course weight of senior Physics or Chemistry.

Social Studies

Major

(1) a. 12 units of course weight in Canadian Studies required: HIST 260, 261, and POL S 321 (or equivalent) plus 3 units of course weight from: ANTHR 250, 255; ECON 318, 319, 340, 355; GEOG 260, 282, 372; HIST 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, POL S 320, 326, 391, 392; SOC 251, 323, 363, 368, 377; CANST 302, 401.
b. 9 units of course weight in World Studies required: 6 units of course weight from: HIST 100, 120, 204, 210, 280, 281, plus 3 units of course weight from: Economics, Geography, Political Science or Religious Studies.
c. 9 units of course weight in Cultural Studies required: 6 units of course weight from human and/or cultural geography, plus 3 units of course weight from Anthropology, Geography, Sociology or Religious Studies.
d. 6 units of course weight in general Social Studies from Philosophy, Psychology, Sociology, Anthropology, History, Political Science, Religious Studies, Classics or Geography. It is suggested that one of the courses be concerned with the methodology or philosophy of Social Science. For example, PHIL 353, 365, SOC 437, POL S 317, EDFDN 453.

(2) EDSEC 375 and 376

Minor

Eighteen units of course weight from at least 3 of the following groups:

(1) HIST 100, 120, 204, 210, 280, 281

(2) HIST 260 or 261

(3) Cultural and/or Human Geography (offered by the Faculty of Arts)

(4) EDSEC 275, 475

Religious and Moral Education

(1) 9 approved units of course weight from courses offered by the Department of Philosophy, Department of Religious Studies, St. Joseph's College, St. Stephen's College.

(2) EDSEC 280

(3) EDPSY 417

(4) EDFDN 434 or 456

Secondary Special Education

(1) EDPSY 341

(2) EDPSY 329

(3) EDPSY 207

(4) ED ES 348

(5) EDPSY 309

(6) 3 units of course weight option to be selected in consultation with an adviser from the Department of Educational Psychology.

Educational Media

(1) **Instructional Technology Emphasis**

a. EDMDA 351 and 471
b. 6 to 9 units of course weight from: EDMDA 465, 467, 470, 473, 481, 483, EDACT 274, EDPSY 479, 481, 487, 489, CMPUT 114, 161, 162
c. 3 to 6 units of course weight from: ANTHR 101, 308, 330, ART 131, PHIL 240, 301, 326, PSYCO 341, 358, 361, 383, SOC 100/201, 241, 344, F ST 200, or other related courses approved by the Faculty adviser.

(2) **Learning Resources Emphasis**

a. EDMDA 351 and ED ES 346
b. 3 units of course weight from: LIS 515, EDMDA 470
c. 3 to 6 units of course weight from: EDMDA 465, 467, 471, 473, 481, 483, CMPUT 114, 161, 162, EDPSY 479, 481, EDACT 274
d. 3 to 6 units of course weight from: ANTHR 101, 308, 330, ART 131, PHIL 240, 301, 326, PSYCO 341, 358, 361, SOC 241, 344, F ST 200, or other related courses approved by the Faculty adviser.

English as a Second Language (Minor)

(1) LING 101 or 203

(2) LING 204

(3) LING 320 or EDPSY 477

(4) ANTHR 101 or 307

(5) 3 units of course weight chosen in consultation with an adviser

(6) EDSEC 271 or an additional 3 units of course weight chosen in consultation with an adivser.

Environmental Education (Minor)

(1) 3 units of course weight chosen from: BIOL 110, GEOG 131, ZOOL 260.

(2) 3 units of course weight chosen from: BOT 381, PHIL 355, SOILS 316, ZOOL 460.

(3) 3 units of course weight chosen from: AG EN 308, AG EN 313, AN SC 350, BOT 383, ECON 365, ECON 366, ENT 408, FOR 200, FOR 310, FOR 314, INT D 365, INT D 369.

(4) 3 units of course weight chosen from : FOR 360, FOR 365, GEOG 424, SOILS 485, ZOOL 361.

(5) 3 units of course weight chosen from: (1), (2), (3), or (4) or ANTHR 330, BOT 230, BOT 231, BOT 333, BOT 431, FOR 316, FOR 318, FOR 430, FOR 431, GEOG 331, GEOG 336, GEOL 207, MA SC 430, PHYS 261, PHYS 263, PL SC 352, SOC 462, SOILS 330, SOILS 360, SOILS 450, SOILS 460, ZOOL 231, ZOOL 331, ZOOL 366, ZOOL 371.

(6) 3 units of course weight chosen from : EDSEC 463, EDSEC 254, EDSEC 266, or 3 units of course weight chosen in consultation with an adviser.

74.3.4 Intercultural Education Program

The BEd program provides an opportunity for students to undertake special studies in Intercultural Education. These studies are designed to prepare teachers for service in areas where other cultures prevail, such as Indian, Métis, and Eskimo communities, or third-world countries. The student must complete a prescribed pattern of courses and must be prepared to accept a practicum experience in a cross-cultural setting.

Secondary Intercultural Education students should complete the Intercultural Education minor based on the following sequence:

(1) **Social Sciences - Linguistics:** Any combination or sequence of courses from the following list to a minimum of 9 units of course weight:

a. Anthropology: ANTHR 101 (3), ANTHR 150 (3), ANTHR 301 (3), ANTHR 307 (3), ANTHR 308 (3), ANTHR 327 (6);

b. Sociology: SOC 100/101 (6), SOC 261 (3), SOC 368 (3), SOC 300 (3), SOC 437 (3);

c. Linguistics: LING 101 (3), or LING 203 (3)

(2) **Educational Foundations:** 6 units of course weight:

a. EDFDN 410 (3), and

b. one of EDFDN 422 (3), 431 (3), 432 (3), or EDFDN 474 (3).

(3) **Special Interest Area:** Six units of course weight selected from courses in a special interest area, such as Teaching English as a Second Language, or Native Canadian, Latin American, or Far Eastern Studies. Courses taken in this area must be approved by the Coordinator of Intercultural Education.

Note A: Intercultural Education students should take EDFDN 360 or EDFDN 310 as part of their basic education requirements.

Note B: EDFDN 410 requires either EDFDN 310 or an anthropology prerequisite.

At the request of the student, the intercultural focus will be recognized by a letter from the Dean stating that the student has completed the course requirements in Intercultural Education.

Any student interested in Intercultural Education is advised to consult one of the advisers of the Intercultural Program, Department of Educational Foundations. Advisers must approve all programs.

74.4 Industrial Arts Route

74.4.1 General

The Industrial Arts Education Route provides teacher preparation with a specialization in teaching industry and its application of various crafts and technologies. The program in the schools is part of a general education, with emphasis at the junior high school level on exploring the technological society in which we live. At the senior high school level the range of activity usually narrows and may include orientation to various career fields. The program focuses on industry, its materials and its technologies, as well as the occupational characteristics of careers in a modern technological society.

A large part of the Industrial Arts Education program is conducted in laboratories where students learn to use the materials, machines and technology of modern industry.

The University of Alberta and the Northern Alberta Institute of Technology are presently exploring a collaborative approach to the teaching of technical content for Industrial Arts Route students. Although registered at the University, students receive instruction in some of their courses at the Northern Alberta Institute of Technology. Industrial Arts students will continue to learn to teach in a laboratory environment on the University of Alberta campus.

Note: Students entering the Faculty in September 1987 or later are required to complete a 3-credit educational computing science course or equivalent before graduation. Courses which currently satisfy the requirement are CMPUT 161 or EDACT 274. One of these two courses (or equivalent) should be completed as early as possible in the program. Students who have completed another course or plan to take another course which appears to be equivalent must inquire at the Faculty Records Office to determine whether or not the course meets the requirement.

Quota

A quota on enrolllment in the Industrial Arts Route of the BEd degree program exists for students who will be entering Year 2 of this program. Thirty applicants will be accepted.

Admission to Year 2 of the Industrial Arts Route will be based on the following criteria:

(1) Presentation of the following courses with a minimum Cumulative Grade Point Average (CGPA) of 5.5:

ED ES 132
EDPSY 163
EDFDN 201
English (6)
Social Science (6)
Science (6)
EDACT 274
ED PR 151

(2) Documented experience with children or youth.

(3) Two confidential letters of reference.

(4) A focused written statement.

(5) A personal interview may be required.

74.4.2 Program

Normally, the four year program will be as follows:

First year

1. EDPSY 163	6. EDACT 274
2. EDFDN 201	7. ED PR 151
3. ENGL	8. ENGL
4. Social Science	9. Social Science
5. Science	10. Science

Second year

11. EDACT 211	16. EDPSY 341
12. EDACT 213	17. EDPSY 371
13. EDACT 233	18. EDACT 391
14. EDACT 235	19. EDFDN 3xx
15. EDACT 237	20. ED PR 351

Third year

21. EDACT 395	26. EDACT 412
22. EDACT 457	27. EDACT 416
23. EDADM 401	28. EDACT 436
24. Minor	29. EDACT 438
25. Minor	30. EDACT 477

Fourth year

31. EDACT 485	37. Senior Ed Requirement: One of ED FDN/EDPSY 493/495
32. EDACT 497	38. Minor
33. ED PR 357	39. Option
34. ED PR 358	40. Option
35. ED PR 359	
36. Minor	

Notes:

(1) Courses 3 and 8 will normally be ENGL 101 or 104 and 105.

(2) Courses 4 and 9 will normally be one of: SOC 100/101; ANTHR 101/201, or ECON 101/102.

(3) Courses 5 and 10 will normally be selected from the following: BIOL 100, GENET 197, BOT 199, ZOOL 120; or CHEM 100, 104; or MATH 113, 114, 115, 153, 154; or PHYS 105, 106.

(4) Course 19 will be one of EDFDN 310, 340, 341, 350, 360 or 361.

(5) Minor courses are taken in subject matter areas offered in the secondary schools or they may be taken in one of the three non-teaching minors (Intercultural Education, Secondary Special Education or Educational Media). A description of minors may be found in §74.3 Secondary Education Route. Industrial Arts Route students are not able to complete minors that require courses extending over both terms.

(6) Option courses may be selected freely and used in the area of the minor education or general interest.

(7) Students transferring from other faculties or other institutions may experience course scheduling difficulties and should therefore contact the Department of Adult, Career and Technology as early as possible for individual program planning.

74.4.3 Intercultural Education Program

The BEd program provides an opportunity for students to undertake special studies in Intercultural Education. These studies are designed to prepare teachers for service in areas where other cultures prevail, such as Indian, Métis, and Eskimo communities, or third-world countries. The student must complete a prescribed pattern of courses and must be prepared to accept a practicum experience in a cross-cultural setting.

Students in the Industrial Arts and Vocational routes will follow the course sequence outlined for Secondary route students.

At the request of the student, the intercultural focus will be recognized by a letter from the Dean stating that the student has completed the course requirements in Intercultural Education.

Any student interested in Intercultural Education is advised to consult one of the advisers of the Intercultural Program, Department of Educational Foundations. Advisers must approve all programs.

74.4.4 Minor in Secondary Special Education

For students wishing to pursue a minor in this area, the following courses are to be included in the program:

(1) EDPSY 341

(2) EDPSY 207

(3) and (4) two of:

EDPSY 329
EDPSY 411
EDPSY 419
EDPSY 475
EDFDN 463
ED ES 348
EDSEC 440
PSYCO 341
PSYCO 358
SOC 224
SOC 377
FAM 321
PESS 140

(5) EDACT 391. This course is mandatory for all Industrial Arts students. For those in the Secondary Special Education minor, the practicum experience will be with atypical adolescents and would involve working with exceptional pupils, individualizing instruction by taking into account the pupil's strengths and weaknesses and, in general, adapting programs to pupils. In addition, ED PR 351 or one of ED PR 358 or 359 will take place in a Special Education context.

74.5 Vocational Education Route

74.5.1 General

The Vocational Education Route to the BEd degree provides preparation to teach in two general instructional specializations:

) **High School Specialization**

) **Adult Education Specialization:** See §74.6.

uota

A quota on enrollment in the Vocational Education oute of the BEd degree program (High School Spe- alization) exists for students who will be entering **Year** of the program. Admission will be limited to 30 udents.

Admission to Year 2 of the vocation education route ligh school Specialization) will be based on the follow- g criteria:

) Full matriculation or non-matriculated adult admission requirements as defined for the Faculty of Education.

) Evidence of current competency through documentation of at least a four-year training period and appropriate Journeyman Certificate or equivalent in one of the following areas: Autobody, Automotives, Beauty Culture, Building Construction, Business, Drafting, Electricity, Electronics, Food Preparation, Graphic Arts, Health Services, Horticulture, Machine Shop, Piping, Sheet Metal, Visual Communications, Welding. (Note: Admission may be limited within some subject areas and may vary annually.)

) Documented work experience, closed letters of reference outlining employment period, nature of job requirements, and quality of work performed. In areas where a Journeyman certificate is not issued, equivalency will be determined by relevant documents, letters of reference, and, in the case of Business applicants, a documented typing speed of not less than 55 wpm net on a 5-minute timed test with not more than eight errors.

) Documented previous experience with children or youth.

) Two confidential letters of reference.

) A focused written statement.

) ED ES 132 (Speech Screen).

) A personal interview may be required.

74.5.2 BEd Program Requirements

The full requirements of the BEd program are met s shown below:

ducation Courses	Units of Course Weight
DPSY 163	3
DPSY 371 (263, —)	3
DFDN 201 or 301	3
DFDN —	3
DADM 401	3
DMDA —	3
DACT 245	3
DACT 390 (245 and 263)	3
DACT 396 (245, 251, 371)	3
DACT 485 (390, —)	3
DACT 497 (390, —)	3
D PR 151	3
D PR 351 (251, 396)	3
D PR 357 (351, —)	3
D PR 358 (351, —)	3
D PR 359, (351, —)	3
enior Education Requirement	3
one of EDFDN/EDPSY 493, 495)	
ubject area courses	
DACT 223 (Ind. Pract.)	2
DACT 243 (Ind. Pract.)	2
DACT 323 (Ind. Pract.)	2
DACT 343 (Ind. Pract.)	4
DACT 423 (Ind. Pract.)	4
DACT 443 (Ind. Pract.)	1
lon-Education courses	15
Computing Requirement	
DACT 274 or CMPUT 161	3
lon-education courses	
nglish	6
linor	12
tudent Selections	6
ree options	
pen	12
otal Units of course weight	120

Notes:

(1) Courses shown in parentheses identify prerequisites before the comma, and either pre- or corequisites after the comma.

(2) Subject Area: A minimum of 15 units of course weight and a maximum of 30 units of course weight (one year) of transfer credit is available on the program in recognition of training and experience in the identified trade/business or technical/business area. (This is detailed in the "Transfer Credit" section below).

(3) "Minor" courses must be selected from one subject area other than vocational education as specified in §74.3.2 of the Education Calendar (High School Specialization). Although 12 units of course weight are required in this area, it is recommended that students take a minimum of 18 units of course weight. For Business Education students the minor will be Business Education.

(4) "Non-Education" courses must be taken outside the Faculty of Education and may be used to extend competency in the minor or for a more general education.

(5) "Option" courses may be selected freely and used in the area of minor, special education courses, such as EDPSY 341 (exceptional children), or for general interest.

(6) ED PR 351 occurs full days in the latter part of the term, therefore must be accompanied by courses scheduled for 10 weeks.

Transfer Credit

Subject Area: A minimum of 15 units of course weight and a maximum of 30 units of course weight of transfer credit is available on the program in recognition of training and experience in the identified trade, or business/or technical areas.

Training: Successful completion of a four-year training period (or equivalent) including appropriate certification is a required and integral part of the program.

(1) Normally, students will present documentation of training and Alberta certification and be awarded transfer credit in the Industrial Practicum courses EDACT 223-443.

(2) Students admitted with an incomplete training program will receive credit toward the Industrial Practicum requirements according to the amount of training documented on entry. Students are required to register in the remaining work experience courses and carry out the requirements specified in receiving further credit.

Experience: On entry into the program, students presenting work experience beyond the four-year training period receive additional transfer credit on the basis of 3 units of course weight for each full year of experience, up to a maximum of 15 units of course weight.

Sample Program (High School Specialization)

Regular Schedule: The following is a recommended schedule of the requirements of the Vocational Education program for students entering with a Journeyman's Certificate, plus work experience.

First year

EDACT 223
EDACT 243
EDACT 323
EDACT 343
EDACT 423
EDACT 443
Specialization
Specialization
Non-Education
Non-Education
Non-Education

Second year

EDPSY 163
EDACT 245
ED PR 151
English
Minor
English
Minor
EDADM 401
EDACT 390 (245 and 163)
Non-Education (Computing requirement)

Third year

EDPSY 371 (163, —)
EDMDA —
ED PR 351 (151, 396)
EDACT 396 (245, 151 and 371)
EDFDN 301

Professional term

EDACT 485 (390, —)
EDACT 497 (390, —)
ED PR 357 (351, —)
ED PR 358 (357, —)
ED PR 359 (357, —)

Fourth year

EDFDN —
Minor
Senior Education Requirement
Minor
Non-Education
Non-Education
Option
Option
Option
Option

74.6 Postsecondary/Adult Education

74.6.1 General

The Vocational Education Route to the BEd degree provides preparation in two general instructional specializations:

(1) **High School Specialization:** See §74.5.

(2) **Adult Education Specialization:** This career specialization is designed for adult educators teaching in a wide variety of school and non-school settings. The program provides for a campus-based set of course offerings as well as provision for distance delivery of a portion of the program to groups of students at selected centres.

Admission Requirements

See §13.4.5 of this Calendar.

Special Entrance Requirements

In order to meet the circumstances of many current teachers and instructors of adults, provision has been made for applicants to be admitted on a conditional basis without the normal admission requirements and constraints noted above.

Admission for this career goal is limited to skill areas represented by either on-going or formally-planned education/training programs. Admission is subject to current competency in the required subject area and the required experience to teach in that area by providing documentation of:

(1) At least a four-year training period including an appropriate competency certificate or equivalent, letters of reference outlining employment period, nature of job requirements, and quality of work performed, and

(2) a. A minimum of one year's successful full time teaching experience in the referent adult program.

b. In the case of formally planned programs for future implementation, a letter of reference from appropriate program administrators attesting to the suitability of the candidate's potential for teaching adult programs may be accepted in lieu of teaching experience.

74.6.2 Program Requirements

The full requirements of the BEd program are met as shown below:

Education courses	Units of Course Weight
EDPSY 163	3
EDPSY 371 (163, —)	3
EDFDN 201 or 301	3
EDFDN —	3
EDADM 401	3
EDMDA —	3
EDACT 245	3
EDACT 390 (245 and 163)	3
EDADU 460 (371, 390)	3
ED PR 151	3
EDACT 485 (390, —)	3
EDADU 461	3
ED PR 351 (251, 396)	3
ED PR 357 (351, —)	3
ED PR 454 (461, —)	3
ED PR 455 (454, —)	3
Senior Education Requirement	3

Subject area courses	
EDACT 223 (Ind. Pract.)	2
EDACT 243 (Ind. Pract.)	2
EDACT 323 (Ind. Pract.)	2
EDACT 343 (Ind. Pract.)	4
EDACT 423 (Ind. Pract.)	4
EDACT 443 (Ind. Pract.)	1
Non-Education courses	15
Computing Requirement	
EDACT 274 or CMPUT 161	3
Non-Education Courses	
English	6
Minor	12
Student Selections	6
Free options	
Open	12
Total Units of course weight	120

Notes:

(1) Courses shown in parentheses identify prerequisites before the comma, and either pre- or corequisites after the comma.

(2) Subject Area: A minimum of 15 units of course weight and a maximum of 30 units of course weight (one year) of transfer credit is available on the program in recognition of training and experience in the subject area. (This is detailed in the "Transfer Credit" section below).

(3) "Minor" courses will be chosen in consultation with a program adviser to develop content skills in a second teaching area.

(4) "Non-Education" courses must be taken outside the Faculty of Education and may be used to extend competency in the minor or for a more general education.

(5) "Option" courses may be selected freely and used in the area of minor, special education courses, such as EDPSY 341 (exceptional children), or for general interest.

Transfer Credit

Subject Area: A minimum of 15 units of course weight and a maximum of 30 units of course weight (one year) of transfer credit is available on the program in recognition of training, experience and teaching in a recognized subject area.

Training: Successful completion of a four-year training period (or equivalent) including appropriate certification is a required and integral part of the program.

Experience: On entry into the program, students presenting work/teaching experience beyond the four-year training period receive additional transfer credit on the basis of 3 units of course weight for each full year of experience, up to a maximum of 15 units of course weight.

Sample Program - Adult Education

Sequence of Courses - Recognizing that most students on this route will attend part-time for most of the program (probably only attending one year as a full-time student), a year by year course plan is not relevant. However, planning for course sequencing is necessitated by certain course prerequisites. The program is divided into four major components.

(1) Potential transfer credit based on appropriate training and experience in an approved subject area:

EDACT 223	Non-Education
EDACT 243	Non-Education
EDACT 323	ED PR 151
EDACT 343	ED PR 351
EDACT 423	ED PR 357
EDACT 443	

(2) Andragogy courses focusing on instructional planning and delivery in adult education, some of which may be offered on a distance delivery basis:

Level I	
EDACT 245	EDADU 460
EDACT 390	Option
EDPSY 371	
Level II	
EDADU 461	ED PR 454
EDACT 485	Option
EDMDA 351	

(3) 30 units of course weight of non-education courses that can be transferred from other institutions:

ENGL	Minor
ENGL	Minor
Minor	Non-Education
Minor	Non-Education
Non-Education	Non-Education

(4) A year of residence:

EDPSY 163	EDFDN —
EDFDN 301	Senior Ed Requirement
EDADM 401	Non-Education
Option	Non-Education
Option	ED PR 455

Courses may be taken at various places in a student's program depending on individual plans for attending university. Normally, the minimum requirement of one year of full-time attendance occurs toward the end of a student's program.

Further information may be obtained from the Office of the Chair, Department of Adult, Career and Technology Education.

74.7 Combined BEd/BSc Degree Program

74.7.1 General

The Faculty of Education and the Faculty of Science have implemented a new combined degree program which is more highly structured and provides less flexibility in course choice and sequencing since it is designed to meet the minimum requirements of both degrees in five years. In addition, it must meet teacher certification requirements.

To accommodate the variety in subject studies needed in secondary school teaching, students in the combined program will select a major/minor from areas of concentration as follows:

Biological Sciences: Biochemistry, Botany, Biology Entomology, Genetics, Microbiology, Pharmacology, Physiology, Zoology.

Physical Sciences: Astronomy, Biochemistry, Chemistry, Geophysics, Mathematical Physics and Physics.

Mathematical Sciences: Computing Science, Mathematics, Statistics and Applied Probability.

A quota on enrollment in the BEd/BSc degree program exists for students who will be entering Year 3 of this program.

(1) 60 units of course weight with a minimum CGPA of 5.5. The 60 units of course weight will be those described in Year 1 and 2 below for the specific major. i.e. Biological Sciences, Physical Sciences, Mathematical Sciences.

(2) Evidence of work or service experience with children.

(3) Letters of reference from two persons familiar with the applicant's work, personality, and character.

(4) A focused written statement.

(5) An interview may be required.

Selection and admission will be based primarily on the rank order of the CGPA.

74.7.2 Program of Studies

Year 1
Junior English (6)
Mathematical Science (6)
Physical Science (6)
Biological Science (6)
Education (6)

Year 2
Science Major (12)
Science Minor (6)
Education (6)
Science or Arts Option (6)

Year 3
Education - Phase II (15)
Science Major (6)
Science Minor (3)
History and Philosophy of Science, Technology and Society (6)

Year 4
Science Major (6)
Science Minor (3)
Education (6)
Education - Phase III (15)

Year 5
Science Major (6)
Science Minor (6)
Science Option (6)
Education (6)
Arts Option (6)

The following is a year by year program for the three major areas of concentration in the combined degree program:

Biological Science Major

Year 1
ENGL 101 or 104 and 105
Mathematical Science
Physical Science: CHEM 160 strongly recommended.
Major: Two of BOT 199, GENET 197, ZOOL 120, MICRB 193
Education: Two of ED PR 151, EDFND 201, EDPSY 163

Year 2
Major: Two of BOT 199, GENET 197, MICRB 193, ZOOL 120
Major: six units of course weight from:
Group 1 (BOT 210, ZOOL 225, 250)
Group 2 (BIOL 202, BOT 219)
Group 3 (BOT 220, 230, 231, 323, ZOOL 231)
Group 4 (GENET 270, 275, 280)
Group 5 (BIOL 201, MICRB 370)
Group 6 (BOT 240, 250, ZOOL 241, 242)
Minor: 6 units of course weight
Education Option: 3 units of course weight
Education: One of ED PR 151, EDPSY 163, EDFDN 201
Arts or Science Option: 6 units of course weight

(Quota on admission occurs at this point)

Year 3: Education - Phase 2
EDSEC 200*
ED PR 353*
EDFDN 3—*
EDPSY 371*
Education Option*
*Must be taken concurrently

Major: 6 units of course weight from Group 1 - 6 (see Year 2)
Minor: 3 units of course weight
History/Philosophy (Science/Technology/Society): 6 units of course weight from BIOL 315, CANST 403, CHRTC 352, HIST 396, PHIL 310, PHYS 202, 261, 263; SOC 426, ZOOL 260, EDFDN 458.

Year 4
Major: 3 units of course weight from Group 1 - 6 (see Year 2)
Major: 3 units of course weight from 300 and 400 level courses: BIOL 425; BOT 419, 431, 435, 422, 440; GENET 300, 304, 308, 312, 315, 318, 319, 364, 371, 381, 390; ZOOL 321, 331, 332, 335, 340, 341, 342, 351, 361, 364, 366, 370, 371; any Marine Science course at the 400 level or any other 400 level course in the Biological Sciences approved by an adviser.
Science Minor (3 units of course weight)
Education (6 units of course weight)
Education - Phase III (15 units of course weight):
ED PR 354*
ED PR 370*
EDSEC (Major)
*Must be taken concurrently.

Year 5
Major: 6 units of course weight from 400 level courses (see Year 4)
Minor: 6 units of course weight
Science Option: 6 units of course weight
Sr Education Requirement: One of EDFDN/EDPSY 493 or 495
EDADM 401
Arts Option: 6 units of course weight

Mathematical Science Major

Year 1
ENGL 101 or 104 and 105
Major: MATH 113 or 114 or 117 and 115 or 118
Physical Science: 6 units of course weight
Biological Sciences: 6 units of course weight
Education: Two of ED PR 151, EDPSY 163, EDFDN 201

Year 2
Major: MATH 120 or 127 and 223 or 128
Major: MATH 241 and 242
Minor: 6 units of course weight
Education: One of ED PR 151, EDPSY 163, EDFDN 201
Arts or Science Option: 6 units of course weight
Education Option: 3 units of course weight

(Quota on admission occurs at this point)

Year 3
Education - Phase II (15 units of course weight):
EDSEC 200*
ED PR 353*
EDPSY 371*
EDFDN 3—*
Education Option*
*Must be taken concurrently.

Major: STAT 141 and/or equivalent and CMPUT 251 or equivalent
Minor: 3 units of course weight

istory/Philosophy (Science/Technology/Society):
units of course weight from BIOL 315, CANST 403, CHRTC 352, HIST 396, PHIL 310, PHYS 202, 261, 263, SOC 426, ZOOL 260, EDFDN 458

ear 4
ajor: 6 units of course weight at the 400 level
inor: 3 units of course weight
ducation Option: 6 units of course weight
ducation - Phase III (15 units of course weight):
ED PR 354*
ED PR 370*
EDSEC (Major)*
Must be taken concurrently.

ear 5
ajor: 6 units of course weight at the 400-level
inor: 6 units of course weight
cience Option: 6 units of course weight
r Education Requirement: One of EDPSY/EDFDN 493 or 495
DADM 401
rts Option: 6 units of course weight

hysical Science Major

ear 1
NGL 101 or 104 and 105
ajor: CHEM 104
ajor: PHYS 141 and 143 or 105 and 106
lathematical Science: MATH 113 or 114 and 115
ducation: Two of ED PR 151, EDPSY 163, EDFDN 201

ear 2
ajor: CHEM 260
ajor: PHYS 204 and 301
inor: 6 units of course weight
ducation: One of ED PR 151, EDPSY 163, EDFDN 201
ducation Option: 3 units of course weight
iological Science: 6 units of course weight

(Quota on admission occurs at this point)

ear 3
ajor: 6 units of course weight from CHEM 330, 361, 363, 375, 313; PHYS 301, 302, 309, 307; ASTRO 310.
inor: 6 units of course weight
ducation Option: 3 units of course weight
istory/Philosophy (Science/Technology/Society): 6 units of course weight from BIOL 315, CANST 403, CHRTC 352, HIST 396, PHIL 310, PHYS 202, 261, 263, SOC 426, ZOOL 260, EDFDN 458
rts or Science Option: 6 units of course weight

ear 4
ducation - Phase II (15 units of course weight):
EDSEC 200*
ED PR 353*
EDPSY 371*
EDFDN 3—*
Education Option*
Must be taken concurrently.
ducation - Phase III (15 units of course weight):
ED PR 354**
ED PR 370**
EDSEC (Major)**
**Must be taken concurrently

ear 5
ajor: 6 units of course weight from those outlined in Year 3
inor: 6 units of course weight
cience Option: 6 units of course weight
r Education Requirement: One of EDPSY/EDFDN 493 or 495
EDADM 401
rts Option: 6 units of course weight

Biological Science Minor

(1) Six units of course weight from: GENET 197, BOT 199, MICRB 193, ZOOL 120

(2) Six units of course weight from: Group 1 (BOT 201, 210, ZOOL 225, 250); Group 2 (BIOL 202, BOT 219); Group 3 (BOT 220, 230, 231, 333, ZOOL 231); Group 4 (GENET 270, 275, 280); Group 5 (BIOL 201, MICRB 370); Group 6 (BOT 240, 250, ZOOL 241)
Note: 3 units of course weight must be selected from at least two groups.

(3) Six units of course weight from: BIOL 315, BOT 419, 431, 422, 455; GENET 300, 304, 308, 312, 315, 318, 319, 364, 371, 381, 390; ZOOL 321, 331, 332, 335, 340, 341, 342, 351, 361, 464, 366, 370, 371; Marine Science at the 400-level or any other 400-level course in Biological Science approved by an adviser.

Mathematical Science Minor

(1) MATH 113 or 114 and 115

(2) MATH 241 and CMPUT 251 or equivalent

(3) Six units of course weight, 3 of which must be at the 400-level.

Physical Science Minor

(1) CHEM 104

(2) PHYS 141 and 143 or 105 and 106

(3) Six units of course weight from: CHEM 330, 361, 363, 375, 313; PHYS 301, 302, 309, 307; ASTRO 310.

74.7.3 Transfer

Transfer into the Combined Program from a University of Alberta BEd or BSc Program

A student in either a BEd or BSc program may transfer into the combined degree program after the first or second year providing that all course and academic standing requirements of the first and second year of the combined degree program and all admission requirements have been met at the time of transfer.

Transfer from Other Faculties and Universities

Transfer into the combined program from other faculties or universities will normally not be possible. The applicant is advised to apply for admission to either the BEd or BSc program and upon completion enter an after-degree program in Science or Education.

Transfer from Alberta Colleges

Transfer into the combined program by applicants from certain two-year collége programs may be possible after the first year providing that all course and academic standing requirements of the first year of the combined program and all admission requirements have been met at the time of transfer.

Normally, a student will be able to transfer from the combined program to a BEd or BSc General program after Year 1, 2 and 3 and should be able to complete a single degree in one to three years.

A student transferring into the combined program with transfer credit normally will be required to complete at least 90 (normally the last 90) units of course weight while registered in the combined program.

74.7.4 Registration Requirements

(1) A student in the combined program will not be granted the privilege of repeating a failed course more than once during the program except with the permission of the Dean of Education and the Dean of Science. A student will not be permitted to repeat a course in which a grade of 4 or more has been received except with the permission of the Dean of Education and the Dean of Science.

(2) Courses with prerequisite requirements may only be used for credit if the prerequisite requirements have been met. A grade of 4 is the minimum grade acceptable in a course which is to be used as a prerequisite.

(3) First year students must restrict their registration to junior level (normally 100-level) courses. Senior courses may be taken by a first year student only upon approval by the Dean of Education and the Dean of Science.

(4) Normally, no more than 48 units of course weight at the junior level are permitted in the combined program.

(5) A full time student in the combined program should normally register in 30 units of course weight during the winter session of each year of the program.

(6) A student may be permitted to complete the requirements for the combined program over a longer period than five years upon approval by the Dean of Education and the Dean of Science.

74.7.5 Academic Standing

Admission to and continuation in the combined BEd/BSc program requires a Cumulative Grade Point Average (CGPA) of at least 5.5. A student who does not meet the requirement to continue in the combined degree program must withdraw from the combined program and may apply for admission to either a BEd program or a BSc program, if eligible. See §72.4 regarding the definition of Cumulative Grade Point Average. Refer to §72.4 or §192.6 and §192.7 to determine the academic standing regulations for admission to either the BEd or BSc General programs.

74.7.6 Graduation

(1) To receive the BEd and BSc degrees concurrently, a student must have completed all requirements of the combined program and must have achieved a CGPA of at least 5.5 on all courses with numeric grades credited to the combined program. Moreover, a GPA of at least 5.5 must be attained in all courses in the major Subject or Area of Concentration.

(2) A student will be allowed to take no more than 12 units of course weight beyond the number of credits normally required for the degree in order to raise the CGPA to the required graduating average.

(3) A student achieving a CGPA of 7.5 or higher in the final 60 units of course weight with numeric grades will have the notation "With Distinction" printed on each diploma.

74.7.7 Appeals and Grievances

(1) A student in the BEd/BSc combined program, seeking a review of a decision on academic standing must first consult with an Associate Dean in the Faculty of Education and submit a written statement pertaining to the specific decision affecting the student's academic standing. This statement should include related documents upon which an appeal can be based and must be made within 30 days of the original decision on academic standing. The Associate Dean of Education will consult with the Associate Dean of Science. They will make a decision on the appeal and inform the student.

(2) If the student is not satisfied with the decision, the student may appeal, in writing, to the Dean of Education. The Dean of Education will consult with the Dean of Science. They will make a decision on the appeal and inform the student. An appeal to the Dean must be made within 15 days of receiving the written decision from the Associate Dean.

(3) If the student is still not satisfied, the student may appeal, in writing, to the BEd/BSc Combined Program Appeals Committee on Academic Standing. An appeal to this committee must be made within 30 days of receiving the written decision from the Deans.

(4) If the latter appeal decision is not satisfactory, the student has the right of appeal to the GFC Academic Appeals Committee. An appeal to this committee must be made within 30 days of receiving the written decision from the Combined Program Appeals Committee.

A copy of the regulations regarding Appeals may be obtained from the Faculty of Education Undergraduate Studies Office or the Faculty of Science Office.

74.7.8 Reexaminations

(1) A student is permitted to take a reexamination(s) in up to 6 units of course weight from among all eligible courses (including those offered by faculties other than Education and Science) while registered in the combined program.

(2) For a student failing to meet the graduation CGPA, a reexamination in an Education or a Science course in the last session, whether failed or passed, may be approved in the final year (last 30 units of course weight) of the combined program in which the session CGPA is less than 5.5 on the condition that the maximum number of reexaminations (6 units of course weight) has not been previously taken.

74.8 Combined BPE/BEd Degree Program

During this five-year program, Physical Education courses and Education courses will be studied concurrently. Students will initially apply for admission to the Faculty of Physical Education and Recreation and will be considered to be registered in that Faculty for the first three years of the program. Following this, they apply for admission to the Faculty of Education in order to complete the requirements of the combined degree program where they will be considered along with the Physical Education majors in the Faculty of Education for the quota places of the Secondary Route, Physical Education major. Unsuccessful applicants may stay in the Faculty of Physical Education and Recreation to complete the fourth year of the BPE degree program.

74.9 BEd Program for Certificated Teachers

Certificated teachers are granted credit for the first year of the general Education program for their Normal School or Junior E training, provided this training was of not less than seven months duration.

Teachers who have not attended the University of Alberta should seek admission by contacting the Registrar's Office, University of Alberta, to obtain Application for Admission forms.

Teachers who completed a one-year program offered by the University of Alberta (prior to 1962) should contact the Registrar's Office to obtain Application for Readmission or On-Campus Transfer forms.

75 BEd Programs for Holders of Approved Degrees

75.1 General

The Faculty of Education offers a program to prepare holders of approved degrees for the Professional Teaching Certificate issued by the Alberta Department of Education.

Candidates will register as BEd/AD students.

75.2 Admission

Admission to the BEd/AD program is limited by a quota to Year 3 of the BEd degree program.

Candidates seeking admission to the BEd After Degree program must present:

(1) A degree which includes adequate preparation in an area of teaching concentration relevant to the elementary and/or secondary schools.

(2) A CGPA of at least 5.5 on the last two years of the degree program.

(3) Evidence of work or service experience with children or youth.

(4) Letters of reference from two persons familiar with the applicant's work, personality, and character.

(5) A focused written statement.

(6) An interview may be required.

Selection and admission will be based primarily on the rank order of the CGPA.

Elementary

Candidates seeking admission to the BEd/AD, Elementary route, are required to present 36 units of course weight of work in areas relevant to subjects taught in elementary schools. A minimum of 15 units of course weight in five of the seven following areas must be presented: Canadian Studies, Fine Arts, Language and Literature, Mathematics, Natural Science, Physical Education, Social Science.

Secondary:

Candidates seeking admission to the BEd/AD, secondary route, are required to present 36 units of course weight in one of the specialization areas described below (major). As well, candidates must have a second area of specialization designated as a minor with at least one full course equivalent (6 units of course weight) already completed (See §74.3.2 for details of major and minor).

In each major area of specialization, specific courses are required and these or their equivalents form part of the prerequisite.

Art: ART 131; ART H 101, 102 or 306, 356. Twenty-seven units of course weight in either Art and Design or, from SOC 461; F ST 205; PSYCO 495; ANTHR 427, 428; PHIL 380, 382; NS 360; CLASS 367, 368.

Biological Sciences: CHEM 160 or 260; BIOL 100, GENET 197, 201, 202; BOT 199; ZOOL 120, and 12 units of course weight from senior offerings in Biology, Botany, Biochemistry, Entomology, Genetics, Microbiology, Zoology.

Business Education: ECON 101, 102; ACCTG 311; ORG T 301, 311; LEG R 301, 402; EDBUS 341, 357; and 12 units of course weight from EDBUS 343, 351, 355, 460, 461, 481, 483, 485, CMPUT 157, ECON 318, 319, FIN 301, IND R 301, 432, MANEC 301, MARK 301, MATH 113 or 114, FAM 430, 460, LAW 302, 303, 304, SOC 225, 327, or other approved courses in Business or Computing Science.

Note: Successful completion of Typewriting 20 is required.

Drama: DRAMA 149; 247; and 30 units of course weight from the following: DRAMA 275, 303, 304, 321, 323, 353, 359, 383, 425, 442, 459, 483, 492.

English: ENGL 101 or equivalent; 12 units of course weight chosen from senior English courses, 3 units of course weight of which must be in Canadian literature; and 18 units of course weight of which 9 units of course weight are from ENGL 212, 298, 299, 311, 312; LING 101, 203, 204; and the remainder are from other senior English courses or CLASS 359, 360; C LIT 301, 302, 371, 372; F ST 200; DRAMA 347, 442; LIS 515.

General Sciences: CHEM 100 or 104; PHYS 105, 106, 204; BIOL 100, GENET 197; one of ASTRO 110 or GEOL 102, 103; 9 units of course weight from CHEM 212, 260, 270, 330; BIOL 201, 202; BOT 199; ZOOL 120; or any senior Biology, Chemistry or Physics. (A major in Biological Sciences or Physical Sciences with suitable options is acceptable for entry into the General Sciences program).

Home Economics: One of CL TX 155 or 203; one of FAM 110 or 211 or SOC 271; one of FD NU 320 or 321; FD NU 225 or 227. An additional 21 units of course weight must be chosen from: CL TX 150, 160, 270, 300, 306; FAM 215, 310, 320, 321, 343, 347, 430; FD NU 320, 321.

Note: Foods and Nutrition majors may substitute advanced nutrition courses for FD NU 225 or 227.

Mathematics: MATH 113 or 114, 115, 120, 241; STAT 141; and an additional 21 units of course weight from: mathematics courses; CMPUT 161, 162; PHYS 141, 143; or up to 6 units of course weight of approved senior science courses.

Modern Languages

French: FREN 150 and 250; or 152 and 350; R LIN 372; FREN 222 and 223 or FR CA 222 and 223; and 15 units of course weight approved by a subject area adviser.

German: GERM 150 or 151; 330 or 340; and 306, 307, 350; plus an additional 15 units of course weight as approved by subject area adviser.

Ukrainian: UKR 150, 311, 312, 326, 401, 402 and 6 units of course weight from SLAV 301 or UKR 411, 412, 422, 423, 425, 426, 453, 454, 455; and additional units of course weight approved by subject area adviser.

Other Languages: It may be possible to arrange a program for students who intend to teach a language other than those listed above, and for which a 10-20-30 sequence exists in the school system.

Note: Oral proficiency in the language is required.

Music: A minimum of 36 units of course weight in Music courses including: MUSIC 211, 217, 220, 121, or 124, 150, 151, 230, 315, and one of MUSIC 416, 417, 431.

Note: An audition may be required.

Physical Education: 21 of the required 36 units of course weight must be from groupings listed below with a minimum of 1.5 units of course weight from each group.

(1) Aquatics
Level I - PAC 100
Level II - PAC 300, 301, 303, 400, 401

(2) Dance
Level I - DANCE 100, DAC 155, 160
Level II - DANCE 340, 345, 350, 355, 360, 395

(3) Games
Level I - PAC 111, 112, 113, 114, 117, 118, 131, 133, 134, 135, 137, 140
Level II - PAC 311, 312, 313, 314, 317, 318, 320, 331, 333, 337, 411, 412, 413, 414, 418, 437

(4) Gymnastics
Level I - PAC 160
Level II - PAC 360, 361, 362, 460

(5) Individual Activities
Level I - PAC 145, 154, 166, 170, 171, 172
Level II - PAC 345, 354, 370, 372, 445, 454, 470

(6) Physical Fitness
PESS 110, 310, 314, 325

(7) Outdoor Pursuits
PESS 180, 382, 385, 486
PAC 180, 283, 380, 381

Physical Sciences: CHEM 104; one of CHEM 212, 270, 330; PHYS 141, 143 or 105 and 106; PHYS 204, 208, 294; 9 units of course weight from senior Chemistry or Physics.

Social Studies:

(1) 12 units of course weight in Canadian Stud
required. HIST 260, 261; POL S 321 (or equivale
3 units of course weight from ANTHR 250, 3
ECON 318, 319, 340, 355; GEOG 360, 372, 3
HIST 363, 364, 365, 366, 367, 368, 369, 370, 3
372, 373, 374, 375, 376; POL S 320, 326, 391, 3
SOC 251, 323, 363, 368, 377; CANST 302, 401

(2) 9 units of course weight in World Studies requir
6 units of course weight from: HIST 100, 120, 2
210, 280, 281;
3 units of course weight from Economics, Geo
phy, Political Science or Religious Studies.

(3) 9 units of course weight in Cultural Studies requi
6 units of course weight from human and/or cult
geography;
3 units of course weight from Anthropology, Ge
raphy, Sociology, Religious Studies.

(4) 6 units of course weight in General Social Stud
from: Philosophy, Psychology, Sociology, Anth
pology, History, Political Science, Religious Stud
Classics or Geography. It is suggested that one
the courses be concerned with the methodology
philosophy of Social Science, e.g., PHIL 316, 3
SOC 437; POL S 317; EDFDN 453.

Industrial Arts

Candidates seeking admission to the BEd/AD, I
dustrial arts route, must normally present a degree
engineering or specialized areas in science. Consu
tion with the Department of Industrial and Vocatic
Education is mandatory prior to application.

A minimum of 30 units of course weight must
completed after being admitted to and registering in
Faculty of Education. (See §72.1.6 (2)).

Vocational Education

Applicants must possess a recognized degree
cluding 6 units of course weight in English) in additio
the previously identified vocational entrance requireme
(see §74.5.1).

A minimum of 30 units of course weight must
completed after being admitted to and registering in
Faculty of Education (see §72.1.6 (2)).

75.3 Programs

Elementary Education

The BEd/AD program, Elementary Route, is c
rently under revision. Details will be provided wh
program changes have been approved.

Secondary Education

The BEd/AD program consists of a minimum of
units of course weight, and a minimum of 45 units
course weight for certification. The following compone
are necessary to qualify for the Professional Certifica

Basic Education
EDPSY 363/371 (6)
EDFDN 301/3XX (6)
EDADM 401 (3)
Practicum*
ED PR 353 - Phase II (3)
ED PR 350, 354, 355, 356, 370 - Phase III (9)
Curriculum and Instruction
EDSEC 200 (3)
EDSEC - Major area (3)
EDSEC - Major area (3)
Senior Education Requirement: One of EDFDN 493, 4
EDPSY 493, 495 (3)
Senior Education Options and/or EDSEC (Minor) (6)

Professional certificate at this point.

*Note: Students enrolled in Practicum courses m
have the following changes in their programs:

(1) final examinations in concurrent lecture cours
may be scheduled outside of designated exami
tion weeks.

(2) students may be required to student teach dur
designated examination weeks.

(3) Reading Week (Term II) may be moved to coinc
with school systems' Spring Break.

To complete the BEd degree the following would
required:
Approved Options - 15 units of course weight

Vocational Education

For applicants possessing a recognized degr
(which must include English), in addition to the pre
ously identified high school or adult education entrar
requirements, the following 60 course weight program
available leading to certification and the BEd degree

ample Program (High School and Adult ducation)

DFDN 301
DACT 245
DADM 401
DPSY 363
DMDA 351
DACT 396 (245, 371) or *EDADU 460 (371, 390)
DACT 390 (245, 371)
DFDN —
D PR 351 (396) or *Senior Education option
DPSY 371 (363, —)
DACT 485 (390,—)
DACT 497 (390,—) or *EDADU 461 (460,—)
D PR 357 (351,—) or *Senior Education option
D PR 358 (357,—) or ED PR 454 (461,—)
D PR 359 (357,—) or ED PR 455 (454,—)

rofessional Certificate at this point.

Courses shown with an asterisk (*) are required for
ie Adult Education specialization.

To qualify for the BEd Degree an additional 15 units
f course weight will be required as follows:
enior Education Requirement - one of: EDPSY 493, 495;
EDFDN 493, 495.
ption - Computing requirement: EDACT 274 or CMPUT
261
ption
ption
ption

ndustrial Arts

Consultation with the Department of Adult, Career
nd Technology Education is mandatory to ensure com-
letion of the necessary content courses.

75.4 Advanced Study in Education

75.4.1 BEd For Holders of Approved Degrees Who Also Hold the Alberta Professional Certificate

1) Holders of approved degrees who have not completed the Professional Diploma of the University of Alberta will be required to complete a minimum of ten full course equivalents (60 units of course weight) in order to qualify for the BEd Degree.

2) Holders of approved degrees who hold the Professional Diploma of the Faculty of Education and the Alberta Professional Certificate may qualify for the BEd Degree by completing a five full-course equivalent (30 units of course weight) program planned in one of the six departments of the Faculty of Education.

75.4.2 Diploma of the Faculty of Education

The Faculty of Education offers, through its six departments, a series of diploma programs providing additional special qualifications in designated areas. Normally admission to a diploma program will include an undergraduate degree and a professional teaching certificate. Where exceptional circumstances warrant, one or both of the above requirements may be waived. Additional requirements may be set and quotas may be imposed on particular diploma programs. Students who now hold the MEd degree may not obtain the Diploma on the basis of courses credited on the MEd degree program. Courses credited toward the diploma may not also be credited toward the BEd degree. The pass mark for courses to be credited toward the Diploma is a grade of 5. Students who fail to complete the diploma program requirements in four years from date of commencement of the program may have their diploma program reviewed, and, if necessary, rearranged according to prevailing requirements.

A candidate who does not hold a Professional Teaching Certificate will not receive one upon the completion of a Diploma program. A student wishing to obtain certification must take the basic Certification program described in §72.9.

A student who has not attended the University of Alberta must complete an Application for Admission form and submit it along with all relevant documentation to the Office of the Registrar by the published deadline.

A student who has attended the University of Alberta should complete an Application for Readmission or On-Campus Transfer form by the published deadline.

More detailed information is available by communicating with the department chair as follows:

Department of Adult, Career and Technology Education (Dr. AG Konrad)
Department of Educational Administration (Dr. EW Ratsoy)
Department of Educational Foundations (Dr. MK Bacchus)
Department of Educational Psychology (Dr. EW Romaniuk)
Department of Elementary Education (Dr. RK Jackson)
Department of Secondary Education (Dr. KG Jacknicke)

(1) **Diploma in Early Childhood Education:** Program planning and advising for students pursuing a diploma in Early Childhood Education will be offered by appointment only. Please contact the Department of Elementary Education office for further information.

(2) **Diploma in General Special Education**: This diploma program is designed for experienced teachers who wish to extend their skills in practical classroom settings. Two programs are available. Diploma A is designed for students with a BEd, who lack undergraduate preparation in Special Education. Diploma B is designed for students with the BEd minor, or equivalent, in Special Education at the elementary or secondary levels.

(3) **Diploma for Teachers of Hearing Impaired Children:** This diploma is designed for certified teachers and others who wish to teach or work in a specialist setting with hearing impaired children. It may be completed in fourteen months, and can be individually designed to meet a variety of academic and practical backgrounds from within or outside the Province of Alberta. It focuses on practical skills applicable in a variety of remedial settings. Additional information may be obtained from the Department of Educational Psychology.

(4) **Diploma for Teachers of the Multiple, Dependent Handicapped:** This diploma program is designed to train teachers and other personnel to work with the multiple dependent handicapped. The program is twelve to fourteen months' duration and provides comprehensive training in medical and physical management, sensory and communication problems, assessment, curriculum development, instruction, and behavior management. Students must complete practicums and an internship. Additional information may be obtained from the Department of Educational Psychology.

(5) **Diploma in Postsecondary Education:** A diploma in Postsecondary Education is available for persons holding a first degree in education or in other fields of study. It is intended to provide professional development in andragogy. Program requirements are flexible to allow students to develop concentrations in various applied fields such as teaching, curriculum development, administration, adult basic education, English as a second language, etc.

It should be noted that no formal certification is required at present to teach at the postsecondary level in Alberta. The Diploma program does not result in certification as a teacher.

The program consists of eight three credit courses, four of which must be directly relevant to adult or higher education. There is no residency requirement, but the program must be completed in four years.

Inquiries should be directed to the Chair, Department of Adult, Career and Technology Education.

(6) **Diploma in Personal Career and Life Management Education:** This Diploma is designed for certified teachers who wish to teach in one or more of Health, Health and Personal Life Skills, and Career and Life Management Programs K-12. A maximum of 12 units of course weight of this 24 units of course weight program may be taken by correspondence and independent study. There is no residence requirement but the program must be completed in four years. Persons holding a bachelor's degree in fields other than education may also apply but will be not granted a teaching certificate on the basis of this program. Enrollment may be restricted. Additional information may be obtained from the Department of Secondary Education.

75.4.3 Graduate Degree Programs in Education

The Faculty of Education offers graduate work for the preparation of teachers, supervisors, guidance counsellors, administrators and other educational specialists, and may lead to the degrees of Master of Education, Doctor of Education and Doctor of Philosophy. Candidates for these advanced degrees choose an area of concentration corresponding to the specialization of a particular department as follows:

Department of Adult, Career and Technology Education: Adult and higher education, industrial arts and vocational education. (Chair - Dr. AG Konrad)

Department of Educational Administration: Administration (elementary, secondary and post-secondary), general supervision, financial and business administration, planning and policy, school leadership, and chief administrative roles. (Chair - EW Ratsoy)

Department of Educational Foundations: Philosophy, sociology, and history of education, anthropology and education and international/intercultural education. (Chair - Dr. MK Bacchus)

Department of Educational Psychology: Counselling psychology, educational psychology, school psychology, special education. (Chair - Dr. EW Romaniuk)

Department of Elementary Education: Curriculum and instruction in kindergarten, primary, and elementary education (Grades I-VI). (Chair - Dr. RK Jackson)

Department of Secondary Education: Curriculum and instruction in secondary education. (Grades VII-XII). (Chair - Dr. K Jacknicke)

In order to meet the needs and interests of candidates, the departments permit considerable flexibility in the programs leading to advanced degrees. In general, students pattern their courses from the offerings of the department of their choice supplemented by approved courses from other departments. Normally a candidate for the master's degree must present a program consisting of either five full courses (30 units of course weight) and a thesis or 7 full courses (42 units of course weight) and a project. For specific details students should consult with the appropriate department chair. A candidate for the master's degree is required to spend at least one academic year in study and research in residence at the University of Alberta. A candidate for the doctor's degree (if the candidate already holds a Master's degree) is normally required to spend two academic years in study and research in residence at the University of Alberta.

Graduate courses in education are offered in the Winter Session, and the Intersession.

Students who wish to inquire about graduate programs should address their preliminary inquiries to the Dean of the Faculty of Graduate Studies and Research, the University of Alberta, Edmonton.

Having decided upon an area of specialization, the student should communicate directly with the appropriate department chair and, if possible, arrange for an interview. By this means the student's eligibility will be determined and further information given about the degree programs available in the department.

All candidates for graduate degrees register with the Faculty of Graduate Studies and Research which administers graduate programs throughout the University.

75.4.4 Special Students

Students holding a BEd degree or the equivalent and not desiring to register for a graduate degree, or not meeting all the requirements for admission to the Faculty of Graduate Studies and Research, may apply to the Faculty of Education as a Special Student.

76 Details of Courses

76.1 General Information

The courses listed in §§76.2 to 76.10 inclusive represent the total offerings of the Faculty of Education. Courses on the specializations are usually offered by the other faculties.

Each course is designated by its computer abbreviation and by a number which indicates the level at which it is offered. Courses numbered 100 to 199 are junior courses normally taken by first-year undergraduates. Those numbered 200 to 499 are senior courses normally taken after the first year. Courses numbered at the 500 and 600 level are open only to graduate students. In special cases, students in BEd programs may be permitted to register in 500 level courses but special permission to do so must be obtained in writing from the Chair of the Department offering the course. Only in cases where there is sufficient evidence provided that an undergraduate course will not meet the needs of the student will a registration in a graduate level course be permitted.

The course title is followed by the symbol "★" and a number indicating the units of course weighting used in

computing the grade-point average. Usually a single-term course carries a weight of 3, a full course a weight of 6. The next three figures, enclosed in parentheses, indicate the hours of instruction required by the course in a week. The format is as follows: the first position indicates lecture hours; the second position indicates seminar hours (s), demonstration (d), clinic (c), or lecture-lab (L); and the third position indicates laboratory hours. For the single-term courses the term in which the course is offered is listed first. For full courses the time allotment is normally the same in both terms.

The appearance of a course description in the following list does not constitute any guarantee that the course will actually be offered in either or both terms of the forthcoming session. Information as to which courses will be offered, the names of the instructors, and all further details must be sought from the department concerned.

Physical Requirements for University

The University has a commitment to the education of all academically qualified students and special services are frequently provided on campus to assist disabled students.

Nevertheless, some courses make certain unavoidable demands on students, with respect to the possession of a certain level of physical skill or ability, if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the department concerned and the Disabled Student Services Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for all off-campus courses, instructors may be obliged to refuse registration in such courses.

Note: Effective 1990-91, the Faculty of Education renumbered many of its courses. The following tables list the old and new courses.

Education Curriculum

I. Elementary Education

Old	New	Old	New
ED CI 203	ED EL 255	ED CI 441	ED EL 426
ED CI 212	ED EL 235	ED CI 442	ED EL 427
ED CI 215	ED EL 240	ED CI 444	ED EL 490
ED CI 216	ED EL 215	ED CI 445	ED EL 496
ED CI 220	ED EL 230	ED CI 500	ED EL 565
ED CI 224	ED EL 205	ED CI 501	ED EL 595
ED CI 225	ED EL 241	ED CI 502	ED EL 566
ED CI 236	ED EL 200	ED CI 503	ED EL 555
ED CI 237	ED EL 220	ED CI 504	ED EL 556
ED CI 239	ED EL 225	ED CI 505	ED EL 557
ED CI 300	ED EL 360	ED CI 506	ED EL 520
ED CI 303	ED EL 355	ED CI 507	ED EL 521
ED CI 305	ED EL 320	ED CI 509	ED EL 550
ED CI 308	ED EL 345	ED CI 510	ED EL 551
ED CI 312	ED EL 335	ED CI 511	ED EL 567
ED CI 315	ED EL 340	ED CI 512	ED EL 535
ED CI 318	ED EL 315	ED CI 513	ED EL 536
ED CI 324	ED EL 307	ED CI 520	ED EL 530
ED CI 325	ED EL 341	ED CI 521	ED EL 531
ED CI 327	ED EL 306	ED CI 522	ED EL 505
ED CI 333	ED EL 395	ED CI 523	ED EL 506
ED CI 337	ED EL 300	ED CI 524	ED EL 507
ED CI 338	ED EL 301	ED CI 525	ED EL 508
ED CI 339	ED EL 325	ED CI 526	ED EL 509
ED CI 344	ED EL 390	ED CI 527	ED EL 510
ED CI 345	ED EL 396	ED CI 528	ED EL 511
ED CI 400	ED EL 460	ED CI 531	ED EL 512
ED CI 401	ED EL 461	ED CI 532	ED EL 513
ED CI 402	ED EL 455	ED CI 533	ED EL 596
ED CI 403	ED EL 456	ED CI 534	ED EL 545
ED CI 404	ED EL 457	ED CI 535	ED EL 546
ED CI 406	ED EL 420	ED CI 537	ED EL 500
ED CI 407	ED EL 450	ED CI 538	ED EL 501
ED CI 408	ED EL 446	ED CI 539	ED EL 525
ED CI 409	ED EL 451	ED CI 540	ED EL 526
ED CI 411	ED EL 455	ED CI 544	ED EL 590
ED CI 413	ED EL 435	ED CI 545	ED EL 591
ED CI 418	ED EL 415	ED CI 549	ED EL 560
ED CI 420	ED EL 431	ED CI 550	ED EL 561
ED CI 421	ED EL 430	ED CI 600	ED EL 660
ED CI 422	ED EL 305	ED CI 601	ED EL 695
ED CI 423	ED EL 405	ED CI 602	ED EL 696
ED CI 424	ED EL 406	ED CI 603	ED EL 697
ED CI 425	ED EL 407	ED CI 612	ED EL 635
ED CI 426	ED EL 408	ED CI 613	ED EL 636
ED CI 427	ED EL 409	ED CI 616	ED EL 615
ED CI 428	ED EL 410	ED CI 617	ED EL 616
ED CI 429	ED EL 411	ED CI 623	ED EL 605
ED CI 430	ED EL 412	ED CI 624	ED EL 606
ED CI 432	ED EL 413	ED CI 625	ED EL 607
ED CI 433	ED EL 495	ED CI 627	ED EL 608
ED CI 435	ED EL 400	ED CI 629	ED EL 609
ED CI 438	ED EL 425	ED CI 637	ED EL 600
ED CI 439	ED EL 326	ED CI 644	ED EL 690
ED CI 440	ED EL 428	ED CI 645	ED EL 691

II. Secondary Education

Old	New	Old	New
ED CI 352	EDSEC 200	ED CI 481	EDSEC 421
ED CI 353	EDSEC 329	ED CI 482	EDSEC 435
ED CI 354	EDSEC 330	ED CI 483	EDSEC 234
ED CI 356	EDSEC 370	ED CI 484	EDSEC 436
ED CI 357	EDSEC 371	ED CI 475	EDSEC 463
ED CI 360	EDSEC 375	ED CI 476	EDSEC 467
ED CI 361	EDSEC 376	ED CI 478	EDSEC 219
ED CI 364	EDSEC 339	ED CI 479	EDSEC 419
ED CI 365	EDSEC 340	ED CI 480	EDSEC 420
ED CI 368	EDSEC 358	ED CI 485	EDSEC 214
ED CI 369	EDSEC 359	ED CI 486	EDSEC 415
ED CI 370	EDSEC 354	ED CI 487	EDSEC 244
ED CI 371	EDSEC 355	ED CI 488	EDSEC 444
ED CI 374	EDSEC 362	ED CI 489	EDSEC 424
ED CI 375	EDSEC 363	ED CI 490	EDSEC 425
ED CI 378	EDSEC 319	ED CI 493	EDSEC 426
ED CI 379	EDSEC 320	ED CI 494	EDSEC 249
ED CI 382	EDSEC 334	ED CI 495	EDSEC 449
ED CI 383	EDSEC 335	ED CI 496	EDSEC 280
ED CI 384	EDSEC 434	ED CI 497	EDSEC 400
ED CI 385	EDSEC 314	ED CI 498	EDSEC 401
ED CI 386	EDSEC 315	ED CI 499	EDSEC 402
ED CI 387	EDSEC 344	ED CI 549	EDSEC 503
ED CI 388	EDSEC 345	ED CI 550	EDSEC 504
ED CI 389	EDSEC 324	ED CI 560	EDSEC 575
ED CI 390	EDSEC 325	ED CI 561	EDSEC 576
ED CI 392	EDSEC 414	ED CI 564	EDSEC 539
ED CI 393	EDSEC 224	ED CI 565	EDSEC 540
ED CI 394	EDSEC 349	ED CI 570	EDSEC 566
ED CI 395	EDSEC 350	ED CI 574	EDSEC 567
ED CI 450	EDSEC 403	ED CI 596	EDSEC 510
ED CI 452	EDSEC 429	ED CI 597	EDSEC 511
ED CI 453	EDSEC 430	ED CI 598	EDSEC 501
ED CI 454	EDSEC 229	ED CI 599	EDSEC 502
ED CI 455	EDSEC 404	ED CI 652	EDSEC 611
ED CI 456	EDSEC 270	ED CI 654	EDSEC 629
ED CI 457	EDSEC 470	ED CI 656	EDSEC 670
ED CI 458	EDSEC 471	ED CI 660	EDSEC 675
ED CI 459	EDSEC 472	ED CI 664	EDSEC 639
ED CI 460	EDSEC 476	ED CI 670	EDSEC 666
ED CI 461	EDSEC 477	ED CI 674	EDSEC 667
ED CI 462	EDSEC 275	ED CI 678	EDSEC 619
ED CI 463	EDSEC 475	ED CI 682	EDSEC 634
ED CI 464	EDSEC 440	ED CI 685	EDSEC 614
ED CI 465	EDSEC 441	ED CI 686	EDSEC 615
ED CI 466	EDSEC 442	ED CI 687	EDSEC 644
ED CI 467	EDSEC 239	ED CI 689	EDSEC 624
ED CI 468	EDSEC 439	ED CI 690	EDSEC 610
ED CI 469	EDSEC 266	ED CI 694	EDSEC 649
ED CI 470	EDSEC 458	ED CI 695	EDSEC 650
ED CI 471	EDSEC 454	ED CI 696	EDSEC 600
ED CI 472	EDSEC 254	ED CI 697	EDSEC 602
ED CI 473	EDSEC 462	ED CI 698	EDSEC 601
ED CI 474	EDSEC 466		

Educational Psychology

Old	New	Old	New
EDPSY 251	EDPSY 151	EDPSY 307	EDPSY 207
EDPSY 255	EDPSY 155	EDPSY 355	EDPSY 255
EDPSY 263	EDPSY 163	EDPSY 357	EDPSY 257

76.2 Education — Administration

EDADM 401 The Role of the Teacher
★3 (either term, 3-0-0).

EDADM 463 The Role of the Administrator and the Supervisor
★3 (either term, 3-0-0). Open to senior undergraduate or graduate students in Education.

EDADM 465 Organization and Administration of Instruction in the School
★3 (either term, 3-0-0). Open to senior undergraduate or graduate students in Education.

76.2.1 Reserve List

EDADM 400 Issues in the Administration of Schools
★variable (variable). Prerequisite or corequisite: EDADM 401 or consent of Department.

EDADM 466 Organization and Administration of Instruction in the Elementary School
★3 (either term, 3-0-0).

76.2.2 Graduate Courses

For Graduate Courses please refer to the Graduate Studies and Research section of this Calendar.

76.3 Education — Adult

EDADU 439 Methods and Programs in the Teaching of English as a Second Language to Adults
★3 (either term, 3-0-0). Coordinated by Department of Elementary Education. Prerequisite: ED EL 450.

EDADU 460 Instruction at the Postsecondary Level
★3 (either term, 3-0-0). Prerequisite: EDPSY 371. Prerequisite or corequisite: EDACT 390.

EDADU 461 Curriculum at the Postsecondary Level
★3 (either term, 3-0-0). Prerequisite: EDADU 460.

76.3.1 Reserve List

EDADU 457 Teaching a Second Language to Adults
★3 (either term, 0-3L-0). Coordinated by the Department of Secondary Education.

EDADU 484 Community Home Economics Education
★3 (either term, 3-0-0). Coordinated by the Department of Secondary Education.

76.3.2 Graduate Courses

For Graduate Courses please refer to the Graduate Studies and Research section of this Calendar.

76.4 Education — Adult, Career, and Technology

EDACT 201 Developmental Course
★1 (either term, 1-0-1). Content varies as new courses are developed. Topics announced prior to registration. The student's transcript carries title descriptive of content. May be repeated. Prerequisite: Consent of Department.

EDACT 202 Developmental Course
★2 (either term, 2-0-2). Content varies as new courses are developed. Topics announced prior to registration. The student's transcript carries title descriptive of content. May be repeated. Prerequisite: Consent of Department.

EDACT 203 Developmental Course
★3 (either term, 2-1s-4). Content varies as new courses are developed. Topics announced prior to registration. The student's transcript carries title descriptive of content. May be repeated. Prerequisite: Consent of Department.

EDACT 207 Drafting for Industrial Arts Teachers
★3 (either term, 2-1s-4). Development of necessary techniques for teaching and applying drafting in an industrial arts setting.

EDACT 211 Materials I: Metals and Materials Testing
★3 (either term, 2-1s-4). Study of the processes and machines inherent in the metal and material testing technologies.

EDACT 213 Materials II: Woods, Plastic, and Earths
★3 (either term, 2-1s-4). Study of the processes and machines inherent in the wood, plastic and earth technologies.

EDACT 223 Industrial Practicum
★2 (17 weeks).

EDACT 233 Technology I: Power Technology
★3 (either term, 2-1s-4). Study of energy conversion systems; and energy transmission and control.

EDACT 235 Technology II: Graphics Technologies
★3 (either term, 2-1s-4). Study of the processes, procedures and materials inherent in the graphics technologies.

EDACT 237 Technology III: Electronic and Computer Technologies
★3 (either term, 2-1s-4). Study of the concepts and practices inherent in the electrical, electronic, and computer technologies.

EDACT 243 Industrial Practicum
★2 (17 weeks).

EDACT 245 Introduction to Vocational Technical Education
★3 (either term, 3-0-0). Background and role of vocational education in Canada and abroad, including the early influences of apprenticeship and guilds.

EDACT 274 Introduction to Microcomputers in Education
★3 (either term, 3-0-3). Educational applications of microcomputers. Practically oriented course which

mphasizes applications. Other topics include the his-orical development of the computer, an introduction to perating systems and computer programming.

EDACT 323 Industrial Practicum
★2 (17 weeks).

EDACT 343 Industrial Practicum
★4 (33 weeks).

EDACT 375 Applications of Microcomputers in Education
★3 (second term, 3-0-0). Integration of the microcom-puter into the educational environment through the ad-anced application of BASIC and spreadsheets/databases. Prerequisite: EDACT 274 or CMPUT 161 or consent of Department. Credit will not be granted for both EDACT 375 and EDACT 575.

EDACT 385 Methods of Performance Evaluation in Vocational Education
★3 (either term, 3-0-0).

EDACT 390 Occupationally Based Instructional Planning
★3 (either term, 3-0-0). This course focuses on the following topics as they relate to industrial and voca-ional education: mastery learning; vocational program goals and objectives; long range curriculum planning; occupational analysis processes; writing performance objectives; psycomotor skill development. Prerequisite: EDACT 245. Corequisite: EDPSY 371.

EDACT 391 Multiple Activity Laboratory I
★3 (either term, 3-0-3). Prerequisite or corequisite: EDACT 211, 213, 233, 235, 237.

EDACT 392 Industrial Arts Activities for Elementary Teachers
★3 (second term, 3-0-3).

EDACT 395 Man and Technology I
★3 (either term, 2-1s-4). Study of the interrelationship of man and technology utilizing simulated industrial environment.

EDACT 396 Skills and Modes of Teaching Voca-tional Education
★3 (either term, 2-0-2). A study of a variety of teaching techniques as they may be used in vocational education laboratories. Emphasis is placed on application of con-cepts with practice in micro-teaching and peer-teaching settings. Considerable time is devoted to the study of student-teacher relationships, communications, problems and conflict resolution. EDACT 396 is intended as the methods course preparatory for the Phase II practicum and Professional Term. Prerequisite or corequisite: ED PR 151, EDACT 245, EDPSY 371.

EDACT 401 Developmental Course
★1 (either term, 1-0-1). Content varies as new courses are developed. Topics announced prior to registration. The student's transcript carries title descriptive of con-tent. May be repeated. Prerequisite: Consent of Department.

EDACT 402 Developmental Course
★2 (either term, 2-0-2). Content varies as new courses are developed. Topics announced prior to registration. The student's transcript carries title descriptive of con-tent. May be repeated. Prerequisite: Consent of Department.

EDACT 403 Developmental Course
★3 (either term, 3-0-3). Content varies as new courses are developed. Topics announced prior to registration. The student's transcript carries title descriptive of con-tent. May be repeated. Prerequisite: Consent of Department.

EDACT 404 Developmental Course
★3 (either term, 3-0-0). Content varies as new courses are developed. Topics announced prior to registration. The student's transcript carries title descriptive of content. May be repeated. Prerequisite: Consent of Department.

EDACT 412 Materials I-A
★3 (either term, 2-1s-4). Further study of Metals. Pre-requisite: EDACT 211.

EDACT 416 Materials II-A
★3 (either term, 2-1s-4). Further study of Woods, Plas-tics, and Earths. Prerequisite: EDACT 213.

EDACT 423 Industrial Practicum
★4 (34 weeks).

EDACT 434 Technology I-A
★3 (either term, 2-1s-4). Further study of Power Tech-nology. Prerequisite: EDACT 233.

EDACT 436 Technology II-A
★3 (either term, 2-1s-4). Further study of Graphics Technologies. Prerequisite: EDACT 235.

EDACT 438 Technology III-A
★3 (either term, 2-1s-4). Further study of Electronic and Computer Technologies. Prerequisite: EDACT 237.

EDACT 443 Industrial Practicum
★1 (either term, 8 weeks).

EDACT 457 Multiple Activity Laboratory II
★3 (either term, 2-1s-4). Synthesizing activities with content from the material and technology components of productive society.

EDACT 465 Manpower and Curriculum Implications
★3 (second term, 3-0-0). Further study of vocational technical education including implications for manpower training.

EDACT 474 Educational Applications of Microcomputers
★3 (either term, 3-0-3). Practically oriented course which emphasizes applications. Other topics include the his-torical development of the computer, an introduction to operating systems and computing progamming. Re-stricted to Faculty of Education diploma and graduate students. Credit will not be granted for both EDACT 274 and 474.

EDACT 477 Man and Technology II
★3 (either term, 2-1s-4). Study of the teaching of the interrelationship of man and technology.

EDACT 485 Performance Evaluation in Industrial and Vocational Education
★3 (either term, 3-0-0). This course includes selected aspects of evaluation of importance to teachers who specialize in technical, vocational or industrial arts edu-cation. Various techniques of assessing learning or behaviour in the cognitive, affective, and psychomotor domains are considered. The course is taught from an applications point of view. Specific theories of evalua-tion are not considered as such, but constructs, princi-ples and techniques of measurement are considered from the practical perspective of those who teach indus-trial arts, vocational or technical education. This course is integrated with the practicum in a professional term. Integration is both in terms of content and scheduling. Prerequisite: EDACT 390 or EDACT 391. Corequisite: EDACT 497, ED PR 357, ED PR 358, ED PR 359.

EDACT 490 Writing of Learning/Training Objectives
★3 (either term, 3-0-0). Writing detailed learning and/or training objectives for competency based programs.

EDACT 492 Technical Communications
★3 (either term, 3-0-0). Instruction and intensive prac-tice in technical communication skills. Emphasis on organization and production of the two main forms of technical writing: instructional material and technical reports; treatment of other types of technical writing such as abstract writing and technical correspondence. Diagnosis and correction of individual writing faults.

EDACT 494 Trade Training and Industry in Britain and Continental Europe
★6 (8-5s-20). A study of European training and institu-tions which will include lecture trips and seminars held at London City and Guilds, Holland's Bemetel Institute, etc., aimed at providing vocational educators and indus-trial training personnel with a deeper understanding of European industry and current industrial training pro-grams and methods. Prerequisite: EDACT 245 and EDACT 465 or consent of Department. Note: This course is given in Europe during the Summer Term only.

EDACT 496 Individual Directed Study
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

EDACT 497 Curriculum Development in Industrial and Vocational Education
★3 (either term, 3-0-3). A study of selecting and sequencing learning activities with application to course, unit and lesson planning for the business and industrial educa-tion teacher. Methods of managing the laboratory expe-riences, budgeting and ordering supplies, and record keeping are dealt with. This course, along with EDACT 485, is integrated with practicum in a professional term. Integration is in terms of both content and scheduling. Prerequisite: ED PR 351, EDACT 390 or EDACT 391. Corequisite: EDACT 485, ED PR 357, ED PR 358, ED PR 359.

EDACT 498 Individual Directed Laboratory Study
★3 (either term, 3-0-3). Prerequisite: Consent of De-partment.

76.4.1 Graduate Courses

For Graduate Courses please refer to the Graduate Studies and Research section of this Calendar.

76.5 Education — Business

EDBUS 341 Teaching of Keyboarding/Typewriting
★3 (either term, 3-0-0). Prerequisite: Typewriting 20 or the equivalent.

EDBUS 355 Business Computer Processing
★3 (either term, 0-4L-0). Commercial applications, and the teaching of computer processing in the secondary school.

EDBUS 357 Teaching of Accounting in Automated Data Processing and Accounting
★3 (either term, 3-0-0). Prerequisite: ACCTG 311.

76.5.1 Reserve List

EDBUS 343 The Teaching of Shorthand
★3 (either term, 0-5L-0). Prerequisite: Typewriting 20 and Shorthand 20 of high school or the equivalent.

EDBUS 351 Office Procedures
★3 (either term, 3-0-0). Office organization and services and the teaching of word processing.

EDBUS 460 Curriculum and Instruction in Secondary School Distributive Education I
★3 (either term, 3-0-0). Prerequisite: Consent of Department

EDBUS 461 Curriculum and Instruction in Secondary School Distributive Education II
★3 (either term, 3-0-0). Prerequisite: EDBUS 460.

EDBUS 481 Curriculum Laboratory in Business Education
★3 (either term, 3-0-0). The development of units for individualized and group instruction. Prerequisite: Stu-dent teaching experience or consent of Department.

EDBUS 483 Curriculum and Instruction for Work Experience Programs
★3 (either term, 3-0-0).

EDBUS 485 Supervised Occupational Experience
★3 (either term, 100 hours;0-1L-0).

76.6 Education — Curriculum and Instruction

76.6.1 Elementary Education

Note A: Credit in either ED EL 240 and ED EL 341 **or** ED EL 241 and ED EL 340 are considered as alter-nates to the 16 units of course weight of junior ED EL courses. Students taking ED EL 240 must proceed to ED EL 341. Students taking ED EL 241 must proceed to ED EL 340.

Note B: 300 and 400 level courses are open to students upon successful completion of 16 units of course weight of introductory curriculum and instruction as outlined in §73.2.1 III, ED PR 310 and 330, or 328/329 except as noted.

ED ES 132 Speech Improvement
★0 (either term, 0).

ED ES 144 Education Concert Band
★0 (either term, 0-0-2). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of the concert band. ED ES 144 is a credit/no credit course.

ED ES 145 Education Mixed Chorus
★0 (either term, 0-0-2). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of the mixed chorus. ED ES 145 is a credit/no credit course.

ED ES 146 Education Handbell Choir
★0 (either term, 0-0-2). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of the handbell choir. ED ES 146 is a credit/no credit course.

ED ES 147 Education Pep Band
★0 (either term, 0-0-2). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of the pep band. ED ES 147 is a credit/no credit course.

ED ES 148 Education Chamber Music Ensemble
★0 (either term, 0-0-2). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of a chamber ensemble. ED ES 148 is a credit/no credit course.

ED EL 200 Curriculum and Instruction in Elementary School Art
★2 (either term, 2-0-0).

ED EL 205 Curriculum and Instruction in Elementary School Language Arts
★4 (either term, 3-1s-0).

ED EL 215 Curriculum and Instruction in Elementary School Mathematics
★2 (either term, 1-0-1).

ED EL 220 Introduction to Curriculum and Instruction in Elementary School Physical Education
★2 (either term, 2-0-0). Additional lab time may be required.

ED EL 225 Curriculum and Instruction in Elementary School Music
★2 (either term, 2-0-0).

ED EL 230 Curriculum and Instruction in Elementary School Science
★2 (either term, 2-0-0).

ED EL 235 Curriculum and Instruction in Elementary School Social Studies
★2 (either term, 2-0-0).

ED EL 240 Elementary School Curriculum and Instruction I
★9 (either term, 9-0-3). An integration of the subject areas of art, mathematics, movement and science, and a selected set of basic skills of teaching. (Note: Students receiving credit in ED EL 240 will *not* receive credit in any of ED EL 200, 215, 220, 230.)

ED EL 241 Elementary School Curriculum and Instruction I
★9 (either term, 9-0-3). An integration of the subject areas of language, music, reading and social studies, and a selected set of basic skills of teaching. (Note: Students receiving credit in ED EL 241 will *not* receive credit in any of ED EL 205, 225, 235.)

ED EL 255 Introduction to Early Childhood Education
★3 (either term, 3-0-0). Registration is restricted to a limited number of students (30 in each year).

ED EL 300 Art Materials and Processes in the Schools
★3 (either term, 1-0-2). Prerequisite: ED CI 200, 240, 340 or consent of Department.

ED EL 301 The Development of Children's Artistic Learning
★3 (either term, 3-0-0). Prerequisite: ED EL 200, 240, 340, or consent of Department.

ED EL 305 Introduction to Elementary School Reading Instruction
★3 (either term, 3-0-0). Prerequisite: Minimum of one year teaching experience. This course may not be taken for credit if credit has already been obtained in any of ED EL 205, 241, 341 or equivalent.

ED EL 306 Diagnostic Teaching of Reading in the Elementary School
★2 (either term, 2-0-0). Open only to students in the Special Education minor. Prerequisite: One of ED EL 205, 241, 341 or consent of Department.

ED EL 315 Diagnostic Teaching of Mathematics in the Elementary School
★2 (either term, 2-0-0). Open only to students in the special education minor. Prerequisite: ED EL 215 or 240 or 340 or consent of Department.

ED EL 320 Curriculum and Instruction in Elementary School Dance Education
★3 (either term, 3-0-0).

ED EL 325 Music in the Elementary School
★3 (either term, 0-3L-0). A course in music curriculum and instruction designed for students in the Education-through-the-Arts minor and other students who have consent of Department.

ED EL 326 Music in the Elementary School I
★3 (first term, 3-0-2). Prerequisite: One of ED EL 225, 241, 341; and successful completion of practicum requirements or teaching experience; or consent of Department. Not open to students in the music education minor.

ED EL 340 Elementary School Curriculum and Instruction II
★9 (either term, 9-0-3). An integration of the subjects art, mathematics, movement and science, and a selected set of basic skills of teaching. (Note: Students receiving credit in ED EL 340 will *not* receive credit in any of ED EL 200, 215, 220, 230.) Prerequisite: ED EL 241.

ED EL 341 Elementary School Curriculum and Instruction II
★9 (either term, 9-0-3). An integration of the subjects language, music, reading, social studies, and a selected set of basic skills of teaching. (Note: Students receiving credit in ED EL 341 will *not* receive credit in any of ED EL 205, 225, 235.) Prerequisite: ED EL 240.

ED ES 346 The Teacher and the School Library Program
★3 (either term, 3-0-0).

ED EL 355 Program Environments in Early Childhood Education
★3 (either term, 3-0-3). Prerequisite: ED EL 255. Registration is restricted to a limited number of students (30 in each year).

ED EL 370 Reflective Teaching in the Elementary School
★3 (either term, 3-0-0).

ED EL 371 Communication through Language and Mathematics in the Elementary School
★3 (either term, 3-0-0).

ED EL 372 Environmental Studies in the Elementary School
★3 (either term, 3-0-0).

ED EL 373 Expressive Arts in the Elementary School
★3 (either term, 3-0-0).

ED EL 390 Supervised Independent Study in Elementary Education I
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

ED EL 395 Seminar in Group Projects in Elementary Education
★variable (either term, variable). Prerequisite: Consent of Department.

ED EL 396 Seminar in Group Projects in Elementary Education I
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

ED EL 400 Design of Elementary Art Resources
★3 (either term, 1-0-2). Prerequisite: One of ED EL 200, 240, 340; and successful completion of practicum requirements or teaching experience; or consent of Department.

ED EL 405 The Reading Process: Theory and Observation
★3 (either term, 3-0-0). Prerequisite: One of ED EL 205, 241, 305, 341; and successful completion of practicum requirements or teaching experience; or consent of Department.

ED EL 406 Reading in Early Childhood Education
★3 (either term, 3-0-0). Prerequisite: One of ED EL 205, 241, 305, 341; and successful completion of practicum requirements or teaching experience; or consent of Department.

ED EL 407 Reading in Upper Elementary School
★3 (second term, 3-0-0). Prerequisite: One of ED EL 205, 241, 305, 341; and successful completion of practicum requirements or teaching experience; or consent of Department.

ED EL 408 Synthesizing Reading Processes and Elementary Curriculum Design
★3 (either term, 3-0-2). Synthesis of ideas regarding the nature of reading processes with those on methods and materials of reading instruction from grade K—6. Restricted to students in the Reading Minor. Prerequisite: ED EL 405.

ED EL 409 Teaching Literature in Elementary Schools
★3 (either term, 3-0-0). Prerequisite: One of ED EL 241, 341; and successful completion of practicum requirements or teaching experience or consent of Department.

ED EL 410 Elementary Language Arts
★9 (either term, 9-0-2). Prerequisite: One of ED EL 205, 241, 341, and successful completion of practicum requirements or teaching experience; or consent of Department.

ED EL 411 Language Across the Curriculum in the Elementary School
★3 (either term, 3-0-0). Prerequisite: One of ED EL 205, 241, 341 or equivalent; and successful completion of practicum requirements or teaching experience; or consent of Department.

ED EL 412 Creative Aspects of Language in the Elementary School
★3 (either term, 3-0-0). Prerequisite: One of ED EL 205, 241, 341 or equivalent, and successful completion of practicum requirements or teaching experience; or consent of Department.

ED EL 413 Speech Problems: Role of the Classroom Teacher
★3 (either term, 3-0-0).

ED EL 415 Teaching Mathematics in the Elementary School
★3 (either term, 3-0-0). Prerequisite: One of ED EL 215, 240, 340; and successful completion of practicum requirements or teaching experience; or consent of Department.

ED EL 420 Curriculum and Instruction in Elementary School Physical Education
★3 (either term, 3-0-0). Prerequisite: Element VII and ED EL 240 or 340; or ED EL 220 or consent of Department.

ED EL 425 The Child's Voice: Techniques for the Children's Choir
★2 (second term, 2-0-0).

ED EL 426 Music Literacy: The Child
★2 (second term, 2-0-0). Prerequisite: MUSIC 150 and 151. Priority to music education minors.

ED EL 427 Music Creativity: Teaching and Learning
★2 (second term, 2-0-0). Prerequisite: MUSIC 150 and 151. Prerequisite or corequisite: MUSIC 207. Priority to music education minors.

ED EL 428 Music in the Elementary School II
★3 (second term, 3-0-2). Prerequisite: One of ED EL 225, 241, 341; and MUSIC 106; and successful completion of practicum requirements or teaching experience; or consent of Department. Restricted to students in the music education minor. Lab hours may require scheduled visits to elementary classrooms.

ED EL 430 Approaches to Elementary School Science
★3 (either term, 3-0-0). Prerequisite: One of ED EL 230, 240, 340; and successful completion of practicum requirements or teaching experience; or consent of Department.

ED EL 431 Curriculum in Elementary School Science
★3 (either term, 0-3L-0). Prerequisite: ED EL 240 or 340 or 320 and at least one laboratory science course or consent of Department.

ED EL 435 Instruction in Elementary School Social Studies
★3 (either term, 3-0-0). Prerequisite: One of ED EL 235, 241, 341; and successful completion of practicum requirements or teaching experience; or consent of Department.

ED ES 443 School Librarianship
★3 (first term, 3-0-0). Introduction to the philosophy and administration of school library programs. Prerequisite: Successful completion of practicum requirements or teaching experience.

ED EL 445 An Introduction to Teaching Second Languages in the Elementary School
★3 (either term, 3-0-0). Prerequisite: A working knowledge of the language to be taught; and successful completion of practicum requirements or teaching experience; or consent of Department.

ED EL 450 Introduction to the Teaching of English as a Second Language
★3 (either term, 3-0-0). Prerequisite: Successful completion of practicum requirements or teaching experience, or consent of Department. Prerequisite or corequisite: An approved introductory course in Linguistics.

ED EL 451 Methods and Programs in the Teaching of English as a Second Language
★3 (either term, 3-0-0). Prerequisite: ED EL 450 and successful completion of practicum requirements; or consent of Department. This course will include a field placement in an off-campus ESL classroom one morning per week.

ED EL 455 Play as a Teaching Strategy
★3 (either term, 3-0-0). Prerequisite: Successful completion of practicum requirements or teaching experience, or consent of Department.

ED EL 456 Integrating Theory and Practice in Early Childhood Education
★3 (either term, 3-0-3). Prerequisite: ED EL 355 and successful completion of practicum requirements, and enrolllment in Early Childhood Education minor or consent of Department Prerequisite or corequisite: ED EL 455.

ED EL 457 Curriculum and Instruction in Early Childhood Education
★6 (3-0-3;3-0-0 or 3-0-0;3-0-3). Priority given to students enrollled in Diploma in Early Childhood Education or students in former BEd with ECE specialization. Prerequisite: At least one year of teaching experience and consent of Department.

ED EL 460 The Teacher's Role in Curriculum Development
★3 (either term, 3-0-0). Prerequisite: Successful completion of practicum requirements or teaching experience, or consent of Department.

ED EL 461 Individualizing Curriculum in the Elementary School
★3 (either term, 0-3L-0). Prerequisite: Successful completion of practicum requirements or teaching experience, or consent of Department.

ED EL 490 Supervised Independent Study in Elementary Education II
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

ED EL 495 Seminar in Group Projects in Elementary Education II
★variable (either term, variable).

ED EL 496 Group Projects in Elementary Education II
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

76.6.1.1 Reserve List

ED EL 307 Trends and Issues in the Teaching of Reading
★3 (either term, 3-0-1). Prerequisite: Open to senior students or by permission of instructor.

ED EL 316 Laboratory Procedures and Materials for Elementary School Mathematics
★3 (either term, 0-0-3).

ED EL 335 The Teaching of Current Canadian Social Issues in the Elementary School
★3 (either term, 3-0-0).

ED EL 345 Introduction to Second Language Teaching in the Elementary School
★3 (either term, 3-0-0). Prerequisite: At least one course in the language to be taught or consent of Department.

ED EL 360 Analysis of Teaching
★3 (either term, 0-3L-0). Prerequisite: ED PR 151.

ED EL 446 Methods and Programs in the Teaching of Second Languages
★3 (either term, 3-0-0). Prerequisite: ED EL 345; and successful completion of practicum requirements, or teaching experience, or consent of Department.

76.6.1.2 Graduate Courses

For Graduate Courses please refer to the Graduate Studies and Reaserch Section of this Calendar.

76.6.2 Elementary and Secondary Education (Common Courses)

ED ES 132 Speech Improvement
★0 (either term, 0).

ED ES 144 Education Concert Band
★0 (either term, 0-0-2). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of the concert band. ED ES 144 is a credit/no credit course.

ED ES 145 Education Mixed Chorus
★0 (either term, 0-0-2). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of the mixed chorus. ED ES 145 is a credit/no credit course.

ED ES 146 Education Handbell Choir
★0 (either term, 0-0-2). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of the handbell choir. ED ES 146 is a credit/no credit course.

ED ES 147 Education Pep Band
★0 (either term, 0-0-2). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of the pep band. ED ES 147 is a credit/no credit course.

ED ES 148 Education Chamber Music Ensemble
★0 (either term, 0-0-2). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of a chamber ensemble. ED ES 148 is a credit/no credit course.

ED ES 346 The Teacher and the School Library Program
★3 (either term, 3-0-0).

ED ES 348 Reading in the Junior and Senior High School
★3 (either term, 3-0-0).

ED ES 443 School Librarianship
★3 (first term, 3-0-0). Introduction to the philosophy and administration of school library programs. Prerequisite: Successful completion of practicum requirements or teaching experience.

76.6.2.1 Graduate Courses

For Graduate Courses please refer to the Graduate Studies and Research section of this Calendar.

76.6.3 Secondary Education

ED ES 132 Speech Improvement
★0 (either term, 0).

ED ES 144 Education Concert Band
★0 (either term, 0-0-2). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of the concert band. ED ES 144 is a credit/no credit course.

ED ES 145 Education Mixed Chorus
★0 (either term, 0-0-2). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of the mixed chorus. ED ES 145 is a credit/no credit course.

ED ES 146 Education Handbell Choir
★0 (either term, 0-0-2). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of the handbell choir. ED ES 146 is a credit/no credit course.

ED ES 147 Education Pep Band
★0 (either term, 0-0-2). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of the pep band. ED ES 147 is a credit/no credit course.

ED ES 148 Education Chamber Music Ensemble
★0 (either term, 0-0-2). A music ensemble designed to provide education students with practical experience in the organization, administration and literature of a chamber ensemble. ED ES 148 is a credit/no credit course.

EDSEC 200 Teaching in the Secondary Schools
★3 (either term, 3-0-1). Prerequisite: Continuing BEd students require ED PR 151 and a minimum of six units of course weight in the teaching minor. Students with approved degrees require a minimum of six units of course weight in the teaching minor.

EDSEC 214 Curriculum and Teaching for Secondary School Art Minors
★3 (either term, 0-3L-0).

EDSEC 219 Curriculum and Teaching for Secondary School Business Education Minors
★3 (either term, 3-0-0). Prerequisite: Typing 20 and ACCTG 311, or consent of Department.

EDSEC 224 Curriculum and Teaching for Secondary School Drama Minors
★3 (first term, 3-0-0).

EDSEC 229 Curriculum and Teaching for Secondary School English Language Arts Minors
★3 (either term, 3-0-0).

EDSEC 234 Curriculum and Teaching for Secondary School Minors in Clothing and Textiles, Foods and Nutrition, and Family Studies
★3 (either term, 3-0-0).

EDSEC 239 Curriculum and Teaching for Secondary School Mathematics Minors
★3 (either term, 3-0-0).

EDSEC 244 Curriculum and Teaching in Secondary School Music Minors
★3 (either term, 3-0-0).

EDSEC 249 Curriculum and Teaching for Secondary School Physical Education Minors
★3 (either term, 3-0-0).

EDSEC 254 Curriculum and Teaching for Secondary School Biology Minors
★3 (either term, 0-3L-0).

EDSEC 266 Curriculum and Teaching for Secondary School Science Minors
★3 (either term, 0-3L-0).

EDSEC 270 Curriculum and Teaching for Secondary School Second Language Minors
★3 (either term, 0-3L-0).

EDSEC 275 Curriculum and Teaching for Secondary School Social Studies Minors
★3 (either term, 3-0-0).

EDSEC 280 Curriculum and Teaching for Religious and Moral Education Minors
★3 (either term, 3-0-0).

EDSEC 314 Curriculum and Teaching in Secondary School Art I
★3 (second term, 3-0-0). Prerequisite: EDSEC 200 and ED PR 353. In addition, continuing BEd students require a minimum of 24 units of course weight in the teaching specialization.

EDSEC 315 Curriculum and Teaching in Secondary School Art II
★3 (second term, 3-0-0). Prerequisite or corequisite: EDSEC 314.

EDSEC 319 Curriculum and Teaching in Secondary School Business Education I
★3 (second term, 3-0-0). Prerequisite: EDSEC 200 and ED PR 353. In addition, continuing BEd students require a minimum of 24 units of course weight in teaching specialization.

EDSEC 320 Curriculum and Teaching in Secondary School Business Education II
★3 (second term, 3-0-0). Prerequisite or corequisite: EDSEC 319.

EDSEC 324 Curriculum and Teaching in Junior High School Drama
★3 (second term, 3-0-0). Prerequisite: EDSEC 200 and ED PR 353. In addition, continuing BEd students require a minimum of 24 units of course weight in teaching specialization.

EDSEC 325 Curriculum and Teaching in Senior High School Drama
★3 (second term, 3-0-0). Prerequisite or corequisite: EDSEC 324.

EDSEC 329 Curriculum and Teaching in Secondary School English Language Arts I
★3 (either term, 3-0-0). Prerequisite: EDSEC 200 and ED PR 353. In addition, continuing BEd students require a minimum of 24 units of course weight in the teaching specialization.

EDSEC 330 Curriculum and Teaching in Secondary School English Language Arts II
★3 (either term, 3-0-0). Prerequisite or corequisite: EDSEC 329.

EDSEC 334 Curriculum and Teaching in Secondary School Home Economics I
★3 (either term, 3-0-1). Prerequisite: EDSEC 200 and ED PR 353. In addition, continuing BEd students require a minimum of 24 units of course weight in the teaching specialization.

EDSEC 335 Curriculum and Teaching in Secondary School Home Economics II
★3 (either term, 3-0-1). Prerequisite or corequisite: EDSEC 334.

EDSEC 339 Curriculum and Teaching in Secondary School Mathematics I
★3 (either term, 3-0-0). Prerequisite: EDSEC 200 and ED PR 353. In addition continuing BEd students require a minimum of 24 units of course weight in the teaching specialization.

EDSEC 340 Curriculum and Teaching in Secondary School Mathematics II
★3 (either term, 3-0-0). Prerequisite or corequisite: EDSEC 339.

EDSEC 344 Curriculum and Teaching in Secondary School Music I
★3 (second term, 3-0-0). Prerequisite: EDSEC 200 and ED PR 353. In addition, continuing BEd students require a minimum of 24 units of course weight including MUSIC 124, in the teaching specialization.

EDSEC 345 Curriculum and Teaching in Secondary School Music II
★3 (second term, 3-0-0). Prerequisite or corequisite: EDSEC 344.

ED ES 346 The Teacher and the School Library Program
★3 (either term, 3-0-0).

ED ES 348 Reading in the Junior and Senior High School
★3 (either term, 3-0-0).

EDSEC 349 Curriculum and Teaching in Secondary School Physical Education I
★3 (either term, 3-0-0). Prerequisite: PESS 294, EDSEC 200 and ED PR 353. In addition, continuing BEd students require a minimum of 24 units of course weight in the teaching specialization.

EDSEC 350 Curriculum and Teaching in Secondary School Physical Education II
★3 (either term, 3-0-0). Prerequisite or corequisite: EDSEC 349.

EDSEC 354 Curriculum and Teaching in Secondary School Biological Sciences I
★3 (either term, 0-3L-0). Prerequisite: EDSEC 200 and ED PR 353. In addition, continuing BEd students require a minimum of 24 units of course weight in the teaching specialization.

EDSEC 355 Curriculum and Teaching in Secondary School Biological Sciences II
★3 (either term, 0-3L-0). Prerequisite or corequisite: EDSEC 354.

EDSEC 358 Curriculum and Teaching in Secondary School General Sciences I
★3 (second term, 0-3L-0). Prerequisite: EDSEC 200 and ED PR 353. In addition, continuing BEd students require a minimum of 24 units of course weight in the teaching specialization.

EDSEC 359 Curriculum and Teaching in Secondary School General Sciences II
★3 (second term, 0-3L-0). Prerequisite or corequisite: EDSEC 358.

EDSEC 362 Curriculum and Teaching in Junior Secondary School Physical Sciences
★3 (second term, 0-3L-0). Prerequisite: EDSEC 200 and ED PR 353. In addition, continuing BEd students require a minimum of 24 units of course weight in teaching specialization.

EDSEC 363 Curriculum and Teaching in Senior Secondary School Physical Sciences
★3 (second term, 0-3L-0). Prerequisite or corequisite: EDSEC 362.

EDSEC 370 Curriculum and Teaching in Secondary School Second Language I
★3 (either term, 0-3L-0). Prerequisite: EDSEC 200 and ED PR 353. In addition continuing BEd students require a minimum of 24 units of course weight in the teaching specialization.

EDSEC 371 Curriculum and Teaching in Secondary School Second Language II
★3 (either term, 0-3L-0). Prerequisite or corequisite: EDSEC 370.

EDSEC 375 Curriculum and Teaching in Secondary School Social Studies I
★3 (either term, 3-0-0). Prerequisite: EDSEC 200 and ED PR 353. In addition continuing BEd students require a minimum of 24 units of course weight in the teaching specialization.

EDSEC 376 Curriculum and Teaching in Secondary School Social Studies II
★3 (either term, 3-0-0). Prerequisite or corequisite: EDSEC 375.

EDSEC 400 Conference Seminar
★1, or ★2, or ★3 (variable).

EDSEC 401 Conference Seminar
★1, or ★2, or ★3 (variable).

EDSEC 402 Guided Individual Study in Secondary Education
★3 (either term, 3-0-0). Prerequisite: Consent of instructor and Department.

EDSEC 429 Teaching Literature to Adolescents
★3 (either term, 3-0-0). Prerequisite: Twelve units of course weight in English.

EDSEC 430 Teaching Composition to Adolescents
★3 (either term, 3-0-0). Prerequisite: Twelve units of course weight in English.

EDSEC 439 Specialized Methods in Secondary School Mathematics Teaching
★3 (either term, 3-0-0).

EDSEC 442 The Use of Computers in the Teaching and Learning of Mathematics
★3 (either term, 3-0-1).

ED ES 443 School Librarianship
★3 (first term, 3-0-0). Introduction to the philosophy and administration of school library programs. Prerequisite: Successful completion of practicum requirements or teaching experience.

EDSEC 444 Current Trends in Secondary School Music Education
★3 (either term, 3-0-0).

EDSEC 463 Environmental Education for the Secondary School
★3 (either term, 0-3L-0). Prerequisite: Consent of Department.

EDSEC 475 New Approaches in Secondary School Social Studies
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

76.6.3.1 Reserve List

EDSEC 403 The Teacher's Role in Curriculum Development
★3 (either term, 3-0-0).

EDSEC 404 The Teacher and Curriculum
★3 (either term, 3-0-0).

EDSEC 414 Teaching Art in the Secondary School in a Cultutral Context
★3 (either term 3-0-0). Prerequiste: Consent of Department.

EDSEC 415 Fine Arts Criticism in the Secondary School
★3 (either term, 3-0-0). Prerequisite: consent of Department.

EDSEC 419 Trends in Secondary School Business Education
★3 (either term, 3-0-0).

EDSEC 420 Issues in Secondary School Business Education
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

EDSEC 421 Selected Topics in Secondary School Business Education
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

EDSEC 424 Advanced Curriculum and Teaching in Secondary School Drama I
★3 (first term, 3-0-0).

EDSEC 425 Advanced Curriculum and Teaching in Secondary School Drama II
★3(second term, 3-0-0).

EDSEC 426 New Approaches in Secondary Drama
★3 (second term, 3-0-0). Prerequiste: Consent of Department.

EDSEC 434 Advanced Curriculum and Teaching in Secondary School Home Economics I
★3 (either term, 3-0-0). Prerequisite: EDSEC 334 and 335 or consent of Department.

EDSEC 435 Issues in Secondary School Home Economics
★3 (either term, 3-0-0). Prerequisite: ED PR 151 and 6 course units of course weight in the minor.

EDSEC 436 Selected Topics in Secondary School Home Economics II
★3 (either term). Prerequisite: EDSEC 434 and 435 or consent of Department.

EDSEC 440 Teaching Mathematics in the Senior High School
★3 (either term, 3-0-0).

EDSEC 441 Teaching Mathematics in the Junior High School
★3 (second term, 3-0-0).

ED ES 448 The Mathematics Curriculum in the Elementary and Secondary School
★3 (either term, 3-0-0).

EDSEC 449 Issues in Secondary School Physical Education
★3 (second term, 3-0-0). Prerequisite: EDSEC 350 or consent of Department.

EDSEC 454 Issues in Senior High School Biology
★3 (either term, 0-3L-0). Prerequisite : Consent of Department.

EDSEC 458 Methods and Resources for Teaching the Earth-Space Sciences
★3 (either term, 0-3L-0). Prerequisite: Consent of Department.

EDSEC 462 The Physics and Chemistry Curriculum in the Senior High School
★3 (either term, 0-3L-0). Prerequisite: Consent of Department.

EDSEC 466 Teaching Science in Its Social Context
★3 (either term, 0-3L-0). Prerequisite: Consent of Department.

EDSEC 467 Testing and Evaluation in Science Teaching
★3 (either term, 0-3L-0). Prerequisite: Consent of Department.

EDSEC 470 Advanced Curriculum and Teaching in Second Language Education
★3 (either term, 0-3L-0).

EDSEC 471 New Approaches to Second Language Teaching
★3 (either term, 0-3L-0).

EDSEC 472 Curriculum Development in Second Language Education
★3 (either term 0-3L-0).

EDSEC 476 Issues in Secondary School Social Studies
★3 (first term, 3-0-0)

EDSEC 477 Selected Topics in Secondary School Social Studies
★3 (second term, 3-0-0).

76.6.3.2 Graduate Courses

For Graduate Courses please refer to the Graduate Studies and Researach section of this Calendar.

76.7 Education — Foundations

EDFDN 201 Introduction to Canadian Education
★3 (either term, 3-0-0). A sociological analysis of the historical development of Canadian education with particular reference to the relationship between schooling and other agencies of socialization viewed in their social, political, and economic context.

EDFDN 301 Education in Canada: Selected Topics
★3 (either term, 3-0-0). Not to be taken by students who have credit in EDFDN 201.

EDFDN 310 Anthropology and Canadian Education
★3 (either term, 3-0-0). A review of the organization of schooling in Canada and of selected educational issues, from perspectives provided by socioculture, symbolic and biological anthropology.

EDFDN 340 Concepts of Teaching and Schooling in History
★3 (either term, 3-0-0). An examination and analysis of teaching and schooling throughout the history of Western Civilization, with particular emphasis upon the modern period.

EDFDN 341 Concepts of Childhood in History
★3 (either term, 3-0-0). A study of those views of childhood which have exerted a significant influence on educational theory and practice over the last two hundred years.

EDFDN 350 The Ethics of Teaching
★3 (either term, 3-0-0). A study of the applied ethics of teaching.

EDFDN 360 Society and Education
★3 (either term, 3-0-0). The changing function and structures of education, with special reference to contemporary Canadian society.

EDFDN 361 Sociology of Learning and Achievement
★3 (either term, 3-0-0).

EDFDN 401 Selected Topics in Educational Foundations
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

EDFDN 402 Directed Study in Educational Foundations
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

EDFDN 410 Cross Cultural Studies in Education
★3 (either term, 3-0-0). The ethnographic study of education and cultural change. Prerequisite: ANTHR 101/301, or ANTHR 307, or ANTHR 325, or ANTHR 350, or ANTHR 355, or consent of Department.

EDFDN 420 Contemporary Systems of Education in Western Europe, the USA and the USSR.
★3 (either term, 3-0-0).

EDFDN 422 Education in Developing Countries: A Study of Education in Selected Areas in Asia, Africa and Latin America
★3 (either term, 3-0-0).

EDFDN 430 History of Education in Western Canada
★3 (either term, 3-0-0).

EDFDN 431 The Education of Selected Minority Groups in Western Canada: An Historical Study
★3 (either term, 3-0-0). An examination of the education of immigrants and their children since Confederation with special attention to the content and agencies of Canadianization.

EDFDN 432 The Education of Native Peoples in Canada: An Historical Study
★3 (either term, 3-0-0). An historical examination of the formal education provided Indian, Metis, and Inuit peoples with special attention to aboriginal, missionary, and federal-provincial educational programs.

EDFDN 434 History of Religious and Moral Education in Canada
★3 (either term, 3-0-0).

EDFDN 441 History of Educational Thought in Modern Times
★3 (either term, 3-0-0). A study of writers who have influenced educational theories and practices in the Western World since Rousseau.

EDFDN 442 Political Dimensions of Educational Theory and Practice: An Historical Study
★3 (either term, 3-0-0).

EDFDN 452 Education and Theories of Knowledge: A Philosophical Approach
★3 (either term, 3-0-0).

EDFDN 453 Logic in Teaching
★3 (either term, 3-0-0). A study of logical techniques employed by classroom teachers including definition, explanation and justification. Emphasis will be on the application of these techniques.

EDFDN 454 Social Philosophy and Education
★3 (either term, 3-0-0). An examination of some basic concepts of social philosophy and their relation to education.

EDFDN 456 The Philosophy of Moral Education
★3 (either term, 3-0-0). An examination of the philosophical problems that arise in the moral education of students.

EDFDN 458 Education and Technology: A Philosophical Approach
★3 (either term, 3-0-0). The course aims to encourage a critical enquiry into the proper place of computers and other technology in the procedures of school education.

EDFDN 461 School and Community
★3 (either term, 3-0-0). The school in the context of community culture and structure.

EDFDN 474 Contemporary Issues in the Education of Native Peoples: A Social Science Perspective
★3 (either term, 3-0-0). An analysis of current issues of

debate in Indian, Metis and Inuit education, with special reference to their social origins.

EDFDN 493 Basic Issues in Contemporary Education
★3 (either term, 3-0-0).

EDFDN 495 Developing a Philosophy of Education
★3 (either term, 3-0-0).

76.7.1 Reserve List

EDFDN 433 The Progressive Education Movement in Canada
★3 (either term, 3-0-0). An historical study of the influence of progressive education in the United States on Canadian education since 1890.

EDFDN 440 History of Educational Thought to Rousseau
★3 (either term, 3-0-0). A study of the writers who have influenced educational theories and practices in the Western World to Rousseau.

EDFDN 460 Sociology in Educational Context
★3 (either term, 3-0-0). Concepts, principles and methods of sociology for students of education. (Not open to students with credit in SOC 100 or SOC 300).

EDFDN 462 The Sociology of the School
★3 (either term, 3-0-0). Prerequisite: SOC 100 or SOC 300 or EDFDN 460 or equivalent.

76.7.2 Graduate Courses

For Graduate Courses please refer to the Graduate Studies and Research section of this Calendar.

76.8 Education — Media

Note: All EDMDA courses are taught by the Department of Adult, Career, and Technology Education.

EDMDA 351 Introduction to Educational Media and Instructional Technology
★3 (either term, 3-0-1).

EDMDA 465 Principles of Graphic Communication
★3 (either term, 0-3L-0). Prerequisite: EDMDA 351 or consent of Department.

EDMDA 467 Principles of Photographic Communication
★3 (either term, 0-3L-0). Prerequisite: EDMDA 351 or consent of Department.

EDMDA 470 Curricular Integration of Audiovisual Materials
★3 (either term, 3-0-0). Prerequisite: EDMDA 351 or consent of Department.

EDMDA 471 Educational Technology and Communication
★3 (either term, 3-0-0). Prerequisite: EDMDA 351 or consent of Department.

EDMDA 473 Designing Multi-Media Instruction
★3 (either term, 0-3L-0). Prerequisite: EDMDA 351 or consent of Deparment.

EDMDA 481 Television in Education
★3 (either term, 3-0-3). Prerequisite: EDMDA 351 or consent of Department.

EDMDA 483 Educational Television
★3 (either term, 0-3L-0). Prerequisite: EDMDA 481 or consent of Department.

76.8.1 Graduate Courses

For Graduate Courses please refer to the Graduate Studies and Research section of this Calendar.

76.9 Education — Practicum

Note: Education Practicum courses will not be offered in Intersession.

ED PR 151 Introduction to the Study of Teaching
★3 (either term, 2-0-4). Phase I practicum for students on all routes. Note: Registration in any of the following courses will not be permitted unless ED ES 132 (Speech Screen) has been completed.

ED PR 248 Practicum in Intercultural Education I
★0). Intersession Experience.

ED PR 300 Student Teaching in the Elementary School
★Variabie. (variable). Note: Permission of the Assistant Dean (Field Experiences) required.

ED PR 310 Student Teaching in the Elementary School II
★4 (either term, 4 weeks). Prerequisite: ED PR 151 and at least eight units of course weight of the introductory curriculum and instruction courses noted in §73.2.1 III or permission of the Assistant Dean (Field Experiences).

ED PR 328 Student Teaching in the Elementary School (Special Education)
★3 (3 weeks). Prerequisite: ED PR 310 and completion of 16 units of course weight of introductory curriculum and instruction courses or permission of the Assistant Dean (Field Experiences). Restricted to Special Education minors only.

ED PR 329 Student Teaching in the Elementary School
★5 (5 weeks). Prerequisite: ED PR 310 and completion of 16 units of course weight of introductory curriculum and instruction courses or permission of the Assistant Dean (Field Experiences). Restricted to Special Education minors only.

ED PR 330 Student Teaching in the Elementary School III
★8 (either term, 8 weeks). Prerequisite: ED PR 310 and completion of 16 units of course weight of introductory curriculum and instruction courses noted in §73.2.1 III, or permission of the Assistant Dean (Field Experiences).

ED PR 348 Practicum in Intercultural Education II
★0). Intersession Experience.

ED PR 350 Student Teaching in the Secondary School
★Variable (variable). Note: Permission of the Assistant Dean (Field Experiences) required.

ED PR 351 Student Teaching — Phase II (Industrial Arts and Vocational Education)
★3 (either term, 4 weeks). Prerequisite: ED PR 151 or permission of the Assistant Dean (Field Experiences).

ED PR 353 Student Teaching in the Secondary School II
★3 (either term, 4 weeks). Continuing BEd students require ED PR 151 and a minimum of six units of course weight in the teaching minor. Students with approved degrees require a minimum of six units of course weight in the teaching minor.

ED PR 354 Campus Based Practicum (Secondary Education)
★3 (either term, 0-3L-0). Prerequisite: ED PR 353.

ED PR 355 Student Teaching in the Secondary School III
★3 (either term, 4 weeks). Prerequisite: ED PR 353.

ED PR 356 Student Teaching in the Secondary School III
★3 (either term, 4 weeks). Prerequisite: ED PR 353.

ED PR 357 Campus Based Practicum (Industrial Arts and Vocational Education)
★3 (either term, 0-3L-0). Prerequisite: ED PR 351.

ED PR 358 Student Teaching — Phase III (Industrial Arts and Vocational Education)
★3 (either term, 4 weeks). Prerequisite: ED PR 351.

ED PR 359 Student Teaching — Phase III (Industrial Arts and Vocational Education)
★3 (either term, 4 weeks). Prerequisite: ED PR 351.

ED PR 360 Student Teaching (Industrial Arts or Vocational Education)
★Variable (variable). Note: Permission of the Assistant Dean (Field Experiences) required.

ED PR 370 Student Teaching in the Secondary School III
★6 (8 weeks). Prerequisite: The Curriculum and Instruction courses which are required in the major and ED PR 353. Corequisite: ED PR 354.

ED PR 454 Student Teaching at Post-Secondary Level: I
★3 (either term, 3 weeks).

ED PR 455 Student Teaching at Post-Secondary Level: II
★3 (either term, 3 weeks).

76.10 Education — Psychology

EDPSY 151 Introduction to Exceptional Children
★3 (first term, 3-0-1). Special Education minors only.

EDPSY 155 Developmental and Learning Characteristics of Exceptional Children
★3 (either term, 3-0-0). Prerequisite: EDPSY 151. Special Education minors only.

EDPSY 163 Introduction to Educational Psychology: Development
★3 (either term, 3-2s-0).

EDPSY 207 Classroom Management of Atypical Adolescents
★3 (first term, 3-0-1). Prerequisite: EDPSY 329 and EDPSY 341. Corequisite: ED ES 348. Secondary Special Education Minors only.

EDPSY 297 Educational Psychology Seminar
★1, or ★2, or ★3 (either term, variable). Prerequisite: Consent of Department.

EDPSY 309 Individualizing Instruction for Atypical Adolescents
★3 (first term, 3-0-1). 10 weeks. Prerequisite: EDPSY 207. Secondary Special Education minors only.

EDPSY 329 Educational Psychology of Adolescence
★3 (either term, 3-0-0).

EDPSY 341 Psychology of Exceptional Children and Youth
★3 (either term, 3-0-0). Not to be taken by students with credit in EDPSY 151.

EDPSY 343 Education of Exceptional Children and Youth
★3 (either term, 3-0-0). Prerequisite: EDPSY 341. Not to be taken by students with credit in EDPSY 151/155.

EDPSY 355 Psychoeducational Diagnosis and Assessment of Exceptional Children
★3 (either term, 3-0-1). Prerequisite: EDPSY 151 and 155. Special Education minors only.

EDPSY 357 Behavioral Management of Exceptional Children
★3 (either term, 3-0-1). Special Education minors only. Prerequisite: EDPSY 151 and 155.

EDPSY 359 Instructional Materials and Programming Methods for Special Education
★2 (either term, 2-0-1). Prerequisite: EDPSY 355 and 357. Special Education minors only.

EDPSY 361 Seminar and Clinical Practicum: Exceptional Children
★3 (either term, 0-2s-4). Special Education minors only. Prerequisite: EDPSY 359.

EDPSY 363 Introduction to Life Span Educational Psychology
★3 (either term, 3-2s-0). Restricted to students in the BEd/AD program.

EDPSY 371 Learning, Instructional Psychology and Educational Practice
★3 (either term, 3-2s-0).

EDPSY 397 Educational Psychology Seminar
★1, or ★2, or ★3 (either term, variable). Prerequisite: Consent of Department.

EDPSY 411 Introduction to Guidance
★3 (either term, 3-0-0). Prerequisite: EDPSY 163 or equivalent.

EDPSY 412 The Psychology of Classroom Communication
★6 (3-0-1). Prerequisite: EDPSY 163 or equivalent.

EDPSY 413 Introduction to Counselling
★3 (either term, 1-0-3). Prerequisite: Consent of Department.

EDPSY 417 Religious and Moral Development and Education
★3 (either term, 3-0-0).

EDPSY 419 Educational and Vocational Guidance in the Classroom
★3 (either term, 3-0-0). Prerequisite: EDPSY 163 or equivalent.

EDPSY 421 Personal and Social Dynamics in Education
★3 (either term, 3-0-0). Prerequisite: EDPSY 163 or equivalent.

EDPSY 425 Psychology of Confluent Education
★3 (either term, 3-0-3). Prerequisite: EDPSY 163 and consent of Department.

EDPSY 449 Deafness: An Introduction and Survey
★4 (either term, 3-0-2). A basic survey of the field of education of the hearing impaired. Covers theory and practice from a historical and a current perspective. A desirable prerequisite for uninitiated students entering the hearing impaired program.

EDPSY 467 Learning and Development in the Elementary School
★3 (3-0-0;0-0-3). Prerequisite: EDPSY 163 or equivalent.

EDPSY 468 Learning and Development in the Elementary School
★6 (3-0-3). Prerequisite: EDPSY 163 or equivalent.

EDPSY 469 Human Development and Education
★3 (either term, 3-0-0). Prerequisite: EDPSY 163 or equivalent.

EDPSY 471 Learning and Instruction
★3 (either term, 3-0-0). Prerequisite: EDPSY 371 or consent of Department.

EDPSY 473 Language and Cognition in the Education of the Child
★3 (either term, 3-0-0). Prerequisite: EDPSY 163 or equivalent.

EDPSY 475 Individual Differences in Education
★3 (either term, 3-0-1). Prerequisite: EDPSY 163 or equivalent.

EDPSY 477 Bilingualism and Cognition in the Education of the Child
★3 (either term, 3-0-0). Prerequisite: EDPSY 163 or equivalent.

EDPSY 479 Introduction to Computer Assisted Instruction
★3 (first term, 3-0-3). Prerequisite: An introductory University credit course in Computing Science or consent of Department.

EDPSY 481 Problems in Implementation and Evaluation of Computer Based Instructional Systems
★3 (second term, 1-0-3). Prerequisite: EDPSY 479.

EDPSY 485 Determining Individual Differences
★3 (either term, 3-2s-0).

EDPSY 487 Introduction to Educational Measurement
★3 (either term, 3-0-0). Prerequisite: EDPSY 163 or consent of Department.

EDPSY 489 Test Construction for Teachers
★3 (either term, 3-0-0). Prerequisite: EDPSY 163 or consent of Department.

EDPSY 493 Basic Issues in Contemporary Education
★3 (either term, 3-0-0).

EDPSY 495 Interpersonal Communication for Teachers
★3 (either term, 1.5-1.5s-0).

EDPSY 497 Senior Seminars
★1, or ★2, or ★3 (either term, variable). Prerequisite: Consent of Department. Content varies from year to year. Topics announced prior to registration period.

EDPSY 498 Senior Seminar in Educational Psychology
★6 (0-3s-0). Content varies from year to year. Topics announced prior to registration period. Prerequisite: Consent of Department.

EDPSY 499 Directed Individual Study in Educational Psychology
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

76.10.1 Graduate Courses

For Graduate Courses please refer to the Graduate Studies and Research seciton of this Calendar.

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Engineering

Faculty of Engineering

Introductory

.1 Members of the Faculty

.1.1 Officers of the Faculty

fessor and Dean
Otto, PhD, PEng

sociate Deans
Capjack, PhD, PEng
Goud, PhD, PEng
Plitt, MSc, PEng

ministrative Officer
Swanson, MSc

.1.2 Chemical Engineering

fessor and Chair
Gray, PhD, PEng

fessors Emeriti
Robinson, PhD

fessors
Chuang, PhD
alla Lana, PhD, PEng
Fisher, PhD, PEng
Lynch, PhD, PEng
Masliyah, PhD, PEng
Mather, PhD, PEng
ader, Dr Phil
andakumar, PhD, PEng
Otto, PhD, PEng
Porteous, PhD, PEng
tyan, PhD
Shah, PhD
Wanke, PhD, PEng
Williams, PhD
Wood, PhD, PEng

sociate Professors
Crickmore, PhD
Hayes, PhD, PEng

istant Professor
ao, PhD

ministrative Officer
Barrow, MSc, PEng

1.3 Civil Engineering

essor and Chair
Smith, PhD, PEng

versity Professors
MacGregor, PhD, PEng, FRSC
Morgenstern, PhD, PEng, FRSC

fessors Emeriti
ilench, DSc
outhillier, MSc
owler, MSc
ngworth, MSc
Peterson, MSc
Preston, BSc
omson, PhD
erschuren, PhD

essors
nderson, MSc, PEng
akker, MSCE, PEng
Cruden, PhD, PGeol, (Joint appointment with
ology)
ozzi, MEng, PEng
enstein, PhD, PEng
lwi, PhD, PEng
rard, PhD, PEng
irudey, PhD, PEng
luck, PhD, PEng
Kennedy, PhD, PEng
ulak, PhD, PEng
Murray, PhD, PEng
eterson, MSc, PEng
aratnam, PhD, PEng
obertson, PhD, PEng
cott, PhD, PEng
ego, PhD, PEng
SH Simmonds, PhD, PEng
S Teply, Dip Ing, PEng
J Warwaruk, PhD, PEng

Associate Professors
DH-K Chan, PhD, PEng
J-J Cheng, PhD, PEng
GR Finch, PhD, PEng
WJ Sproule, PhD, PEng
PM Steffler, PhD, PEng
WA Weir, BSc, PEng
GT Wormsbecker, BSc, PEng
CA Zeiss, PhD

Assistant Professors
SM AbouRizk, PhD
FE Hicks, PhD, PEng

81.1.4 Electrical Engineering

Professor and Chair
PR Smy, PhD, DSc, PEng

University Professor and Professor Emeritus
GB Walker, PhD

Professors Emeriti
RW King, BSc
RE Phillips, BSc
HG Schmidt-Weinmar, PhD
WAG Voss, PhD

Professors
KE Bollinger, MSc, PEng
CE Capjack, PhD, PEng
GS Christensen, PhD, PEng
FS Chute, PhD, PEng
J Conradi, PhD, PEng
GD Cormack, PhD, PEng
NG Durdle, PhD, PEng
CG Englefield, PhD
R Fedosejevs, PhD
I Filanovsky, PhD
PA Goud, PhD, PEng
V Gourishankar, PhD, PEng
PJR Harding, MASc, PEng
CR James, PhD, PEng
WB Joerg, Dipl Math
DH Kelly, PhD, PEng
YJ Kingma, Ir., PEng
DO Koval, PhD, PEng
RI MacDonald, PhD, PEng
RPW Lawson, PhD, PEng
AA Offenberger, PhD
RE Rink, PhD, PEng
AM Robinson, PhD, PEng
D Routledge, PhD, PEng
HJJ Seguin, PhD, PEng
KA Stromsmoe, PhD, PEng
WR Tinga, PhD, PEng
J Tulip, PhD
JF Vaneldik, PhD, PEng
FE Vermeulen, PhD, PEng

Associate Professors
MJ Brett, PhD
WA Krzymien, PhD, PEng
JN McMullin, PhD
JT Mowchenko, PhD
JC Salmon, PhD

Assistant Professor
BF Cockburn, PhD, PEng

81.1.5 Mechanical Engineering

Professor and Chair
JD Dale, PhD, PEng

Professors Emeriti
G Ford, PhD
JB Haddow, PhD
CM Rodkiewicz, PhD
FH Vitovec, Dr TechSci

Professors
DG Bellow, PhD, PEng
DR Budney, PhD, PEng
KC Cheng, PhD
JR Colbourne, PhD, PEng
A Craggs, PhD, PEng
JD Dale, PhD, PEng
F Ellyin, PhD, PEng
MG Faulkner, PhD, PEng
TW Forest, PhD, PEng
JS Kennedy, PhD, PEng
GSH Lock, PhD, PEng
DJ Marsden, PhD, PEng
A Mioduchowski, PhD, PEng
GW Sadler, MSc, PEng
JC Sprague, PhD
JD Whittaker, PhD, PEng
DJ Wilson, PhD, PEng

Associate Professors
MD Checkel, PhD, PEng
WH Finlay, PhD
AW Lipsett, PhD, PEng
RW Toogood, PhD, PEng
RL Varty, PhD, PEng

Assistant Professors
KR Fyfe, PhD
AS Hay, MSc, PEng
LW Sigurdson, PhD
DJ Steigmann, PhD
M Zuo, PhD

81.1.6 Mining, Metallurgical and Petroleum Engineering

Professor and Chair
JM Whiting, PhD, PEng

Professors Emeriti
N Berkowitz, PhD
PM Dranchuk, MSc
DL Flock, PhD, PEng
EO Lilge, MSc
TH Patching, BSc

Professors
K Barron, PhD, PEng
RG Bentsen, PhD
SA Bradford, PhD, PEng
TH Etsell, PhD
SM Farouq Ali, PhD, PEng
H Henein, PhD
BM Patchett, PhD, PEng
AC Pierre, PhD
LR Plitt, MSc, PEng
ML Wayman, PhD, PEng

Associate Professors
AK Ambastha, PhD
RL Eadie, PhD, PEng
NO Egiebor, PhD, PEng
WH Griffin, MSc, PEng
DG Ivey, PhD (NSERC University Research Fellow)

81.1.7 Sessional Lecturer in Engineering

BR Touchings, LLB

81.1.8 Centre for Cooperative Education

Professor and Director
PA Goud, PhD, PEng

Assistant Director and Coordinator
CJ Ottosen, BEd

Administrative Officers
TY Campbell, BSc
CM Ens, BCom
JL Esdale, BEd, Coordinator
RC Kully, BEd, Coordinator
BJ Strang, BA, Coordinator
LJ Szekely, BEd

81.1.9 Additional Members of Faculty Council

President and Vice-Chancellor
P Davenport, PhD

Professors
J Leonard, PhD (Agricultural Engineering)
JW Macki, PhD (Mathematics) alternate
J Stephenson, PhD (Physics)
RA Sydie, PhD (Sociology)
J Takats, PhD (Chemistry)

Associate Professors
JJ Feddes, PhD (Agricultural Engineering)
UM Maydell, MSc (Computing Science)
RH Solomon, PhD (English)
WS Young, PhD (Mathematics)

Assistant Professor
H-G Machel, PhD (Geology)

Representatives
(The Association of Professional Engineers, Geologists and Geophysicists of Alberta)
JR Nodelman, PEng

Representatives from Engineering Students
DT Eisenhawer (Undergraduate)
MR Schmidt (Undergraduate)
TL Sondersen (Undergraduate)
M Mathioudakis (Graduate)
RD Rebinsky (Graduate)

Registrar of the University
BJ Silzer, MEd

82 Faculty Regulations

82.1 Admission and Registration

The general admission requirements, application procedure, registration procedure, and fee schedule are set out in §§13, 14 and 15 of this Calendar. Students wishing to enter the Faculty of Engineering with transfer credit (this includes students returning to the Faculty) must submit their application by June 1 and all documents by June 15.

Prospective students requiring counselling or further information should contact the Associate Dean (Student Services) prior to June 30 (telephone: 492-3320 or 492-3399).

The admission requirements are:

(1) **Applicants from Alberta High Schools:** Applicants for admission from the high schools of Alberta must normally possess a High School Diploma, a minimum grade of at least 50% and an overall average of at least 70% in the following subjects: Chemistry 30, English 30, Mathematics 30, Mathematics 31 and Physics 30.

(2) **Applicants from other Provinces and Territories of Canada:** Students from other provinces who have a clear senior matriculation and would be acceptable in a similar program in those provinces may be considered for admission at the University of Alberta. Such applicants must have completed senior matriculation courses in the same subject areas as required of applicants from Alberta High Schools.

(3) **Applicants from Outside Canada:** Admission requirements for students presenting other than Canadian admission qualifications are outlined in §13.6 of this Calendar.

(4) **English Language Proficiency:** In addition to the English requirements included above and regardless of country of origin or citizenship status, applicants will be required to demonstrate proficiency in the English language as a prerequisite to admission as indicated in §13.2.2 of this Calendar.

82.2 Residence Requirements

A student proceeding towards a BSc degree in engineering must normally attend at least the equivalent of two academic years in the Faculty of Engineering and complete four full terms of approved course work comprising a minimum of 72 units of credit. This should comprise the last four terms of the student's program.

Where a student has been accepted as a transfer student from another accredited engineering program at a Canadian university and has the equivalent of six full terms of transfer credit, consideration may be given to reducing the residence requirement to one academic year consisting of two full terms.

82.3 Academic Regulations

(1) **Quotas:** Student quotas exist for initial entry to the Faculty of Engineering and again at the second-year level to a specialized program.

Entry to a specialized program is based upon the student's academic performance in the first, or qualifying, year. All students in a first or qualifying year, and new applicants to the faculty with sufficient advance credit to be considered for the second year quota, must submit a "Second Year Engineering Program Selection Form" by June 15. A student entering the Faculty directly from high school must normally qualify for a specialized program in not more than four terms (two years); others in not more than two terms (one year). Failure to do so will result in the student being required to withdraw.

(2) **Requirements to Graduate:** Pass in all courses as required by the specific program in accordance with the rules and regulations of the Faculty of Engineering and the University.

(3) **Course Load:**

a. The normal course loads for each term are outlined in the appropriate section of the calendar under "Programs of Study" (§83 of this Calendar). Students at their own request, or upon the advice of a counsellor, may extend the course load of terms three to eight over a total of eight terms. Students wishing to do so should consult with their departmental adviser at the start of the third term.

b. Students in their qualifying year for a specialized program may not normally take a course load of less than 20 units per term.

c. Other students may not normally take a course load of less than 15 units per term.

d. Students may not take more than a normal load except with Faculty permission. Students on probation must not take a course load in excess of a normal load.

(4) **Promotion to Next Term:** At the end of each term, a student's progress will be evaluated as follows:

a. **Pass:** Term GPA not less than 4.5. Proceed to next term, repeating any failed course(s).

b. **Conditional:** Term GPA less than 4.5 but not less than 4.0. Proceed to next term on probation repeating any failed course(s) except if already on probation or has been twice before, in which case student must withdraw. The only exceptions are: (i) if the student is in "First Term" (§83.2 of this Calendar) of the program the student may proceed to the next term without penalty, repeating any failed course(s); (ii) If a student is in the final term of the program and has not achieved a term average of 4.5 (a passing average), then one more term will be allowed in which the student must complete the degree requirements by obtaining a term average of not less than 4.5.

c. **Fail:** Term GPA less than 4.0. Required to withdraw except if in "First Term" of the program the student may repeat the term once without penalty, receiving credit for those courses completed with a grade of 4 or better.

The term GPA will be the weighted average for all courses taken in that term. A full-year course will be included in the second term GPA using its full-session unit value. Where a course grade is WF, then the term GPA will be calculated using a numerical value of 1 for such grades.

(5) **Deficiencies From a Previous Term:** Where a student is deficient in credits in a course (or courses) from a previous term either through failure or otherwise, that student must normally clear that deficiency the next time the course (or courses) is (are) offered.

Where the deficiency is the result of failure or withdrawal from an elective course, another course may be substituted provided that Faculty approval is first received to do so.

(6) **Re-enrollment After Being Required to Withdraw:** A student who is required to withdraw may make application for re-enrollment for the same term the following year, receiving credit for those courses completed with a grade of 4 or better.

A student who is required to withdraw a second time will not normally be re-admitted to the Faculty of Engineering.

(7) **Withdrawal From Courses:** Where permitted, a student wishing to drop a course must do so prior t the following dates: First term courses, Novembe 15; Second term courses, March 20. A withdraw after these dates will be assumed to be due t imminent failure in the course(s) and a grade of W will be assigned. For students changing from "credi to "audit" status, see §12.2.3 of this Calendar.

A student's course load may not be reduce below the limits given in (3), Course Load.

(8) **Reexaminations:**

a. An undergraduate student in the Faculty Engineering may be permitted a reexaminatio provided that:

1) The term engineering average is 5.5 greater.

2) The course load in the term is 15 units more.

3) The grade in the failed course is 3.

4) The student has failed only one course the term.

b. If students are in good standing (4.5 ter average) and are otherwise eligible for graduatio they may be granted a reexamination in or course only in the penultimate term. Th reexamination is to be written by the end Reading Week.

c. If students have passed the reexamination u der clause (b) above, are in good standing (4 term average) and are otherwise eligible f graduation, they may be granted reexaminati privilege in one course only in the next term i is the final term.

d. If students have not written a reexaminati under clause (b) above, are in good standi and are otherwise eligible for graduation, th may be granted reexamination privileges in tw courses only in the final term.

e. Students requesting a reexamination must f low the procedures detailed in §16.5.4 of th Calendar.

(9) **Part-Time Students:** A student unable, for acce able reasons, to carry the course load required §82.3.3 above, may enroll as a part-time student Such a student may not totally complete t degree requirements on a part-time basis but mu meet the normal Faculty residence requiremen (see §82.2 of this Calendar).

(10) **Academic Awards and Recognition**

a. Unless otherwise specified, consideration an academic award or recognition is norma based upon the work of an academic sessi (two terms), in which the student must ha completed at least a total of 36 units of cred

b. For purposes of determining the eligibility o student to be considered for a particular awa when completion of, or entry to, a year specified, the following guidelines will norm be used:

Year completed (entering)	*Minimum units completed*
1st (2nd)	36
2nd (3rd)	72
3rd (4th)	108
4th	Degree awarded
5th (Co-op Students Only)	Degree awarded

(11) **Appeal of Academic Decisions:** Students m appeal an academic decision (but not a spec grade) of a senior administrative officer to Faculty Academic Appeals Committee. To do they must make their decision known to the D within 10 days of the date of the decision. unsuccessful appeal within the Faculty may carried to the General Faculties Council Acade Appeals Committee. See §16.8 of this Calendar copy of the Faculty of Engineering regulations regard Appeals may be obtained from the Faculty Off 5-1 Mechanical Engineering Building.

82.4 Professional Associations and Technical Societies

The practice of Engineering throughout Canad regulated by Professional Associations in each provi The right to practice and accept professional responsib is limited to those who are registered with the pro sional organization in the particular province concer

n Alberta this is The Association of Professional Engineers, Geologists and Geophysicists of Alberta. Members of the Engineering Students' Society are automatically student members of the Association. Graduates are encouraged to join the Association as Engineers in Training. Two years of acceptable experience following graduation is necessary for registration as a Professional Engineer.

The practicing engineer keeps abreast of technological developments through membership in one of several technical societies. Student Branches of these societies (CSAE; CSChE; CSCE; IEEE; CSME; CIM; SA) have active chapters on campus. Engineering students are encouraged to join the society closest to their specialty.

82.5 Cooperative Education Program

The Faculty of Engineering operates a co-operative education option for students in all engineering disciplines, including Agricultural Engineering (which is a program offered jointly with the Faculty of Agriculture and Forestry). Co-operative education is an educational plan in which students alternate periods of study with periods of paid, discipline-related work experience in cooperating employer organizations. All students, who are Canadian citizens or hold landed immigrant status in Canada, are eligible to compete for places in the co-operative program following the successful completion of the first year of studies in Engineering. In order to qualify for the Co-operative Degree, students accepted into the program must successfully complete the following six courses in addition to the regular requirements for the engineering degree within their specialization: ENGG 300 (Orientation to the Co-operative Education Program); WKEXP 901 (4-Month work placement; prerequisite ENGG 300); WKEXP 902 (4-Month work placement; prerequisite WKEXP 901); WKEXP 903 (4-Month work placement; prerequisite WKEXP 902); WKEXP 904 (4-Month work placement; prerequisite WKEXP 903); WKEXP 905 (4-Month work placement; prerequisite WKEXP 904).

Students registered in the cooperative program will complete 20 months of work experience. In order to accommodate the work experience portion of the program, students will normally require 5 years to complete the requirements of the Cooperative Degree.

The actual sequencing of academic and work terms for each discipline is illustrated in Table 1 below.

Students registered in the cooperative program are considered to be full-time students of the University of Alberta for the full 12-months of any academic year (July 1-June 30).

All Work Experience courses are graded on a pass-fail basis. Grades are determined by the student's job performance as evaluated by the employer, by the student's performance in the completion of a work term report, and by the student's ability to learn from the experiences of the work terms. Students who fail a work term are required to withdraw from the cooperative program and the Faculty of Engineering.

Students registered in the cooperative program are provided with considerable assistance in the location of suitable work term placements. The Centre for Co-operative Education (502 Students' Union Building) is responsible for developing engineering related jobs for co-operative education students and for preparing co-operative education students to conduct an active, personal job search. However, the ultimate responsibility for obtaining suitable work term employment rests with the student.

Table 1
Cooperative Education Programs

	Stream "A" (Agricultural) (Civil) (Mineral)+ (Mechanical)	Stream "B" (Chemical) (Computer) (Electrical)	Stream "C" (Metallurgical)
First Year			
Fall	Study 1	Study 1	Study 1
Winter	Study 2	Study 2	Study 2
Summer	*	*	*
Second Year			
Fall	Study 3 ENGG 300	Study 3 ENGG 300	Study 3 ENGG 300
Winter	Study 4	Study 4	Study 4
Summer	WKEXP 901	WKEXP 901	WKEXP 901
Third Year			
Fall	WKEXP 902	Study 5	Study 5
Winter	Study 5	WKEXP 902	Study 6
Summer	WKEXP 903	WKEXP 903	WKEXP 902
Fourth Year			
Fall	Study 6	Study 6	Study 7
Winter	WKEXP 904	Study 7	WKEXP 903
Summer	WKEXP 905	WKEXP 904	WKEXP 904
Fifth Year			
Fall	Study 7	WKEXP 905	WKEXP 905
Winter	Study 8	Study 8	Study 8

F-Fall Term (September-December)
W-Winter Term (January-April)
S-Summer Term (May-August)
*-Summer Vacation
+-Includes Mining and Petroleum

Note: Students who are unable to follow the regular academic and work term sequence as listed in Table I should consult with their departmental adviser and the Centre for Cooperative Education to obtain an approved resequenced schedule.

82.6 Registration in Engineering Courses by Students in Other Faculties

Although the Faculty of Engineering is a restricted enrollment Faculty, it is possible for students who are registered in other faculties to enroll in a limited number of engineering courses.

However, students who are not registered in the Faculty of Engineering must obtain permission to enroll in engineering courses. The appropriate Department Chair in the Faculty of Engineering is authorized to grant permission.

Note: This requirement does not apply to students who are in programs (eg. Agricultural Engineering) which include engineering courses as a formal part of the program.

83 Programs of Study

A degree of BSc in Engineering is offered and is described in §83.1. A four-year program in Agricultural Engineering is offered jointly by the Faculty of Agriculture and Forestry and the Faculty of Engineering. For details of the program see §83.10 of the Calendar.

83.1 Degree of BSc in Engineering

83.1.1 General Information

The program for the degree of BSc in Engineering begins with two terms in which the courses are common to all students.

In subsequent terms some of the courses are common to all students and many options are available to give the student an introduction to a specialized field of Engineering. In the final terms each department suggests one or more specialized patterns although each student has freedom in the choice of electives.

Students, with the consent of the Faculty or departmental advisers, may make substitutions in a recommended course pattern; however, each department will require certain courses, prerequisites and corequisites before registration can be approved.

The Faculty of Engineering recognizes the need for exposure of all engineering students to certain fundamental engineering, science, human relations, public relations, and communications courses. Therefore the following courses must be taken by all students within the Faculty of Engineering.

		No. of units
(1)	CHEM 103 (Introductory University Chemistry I)	4.3
(2)	CHEM 105 (Introductory University Chemistry II)	3.8
(3)	A single-term course in Engineering Economics (See Note A)	3.0
(4)	ENCMP 100 (Computer Programming for Engineers)	3.8
(5)	ENGG 200 (Orientation to the Engineering Profession I)	1.0
(6)	ENGG 201 (Orientation to the Engineering Profession II)	1.0
(7)	ENGG 210 (Engineering Graphics)	3.5
(8)	ENGG 230 (Engineering Mechanics I)	4.0
(9)	ENGG 231 (Engineering Mechanics II)	4.0
(10)	ENGG 300 (Orientation to Cooperative Education) (Co-op students only)	1.0
(11)	ENGG 500 (The Practice of the Engineering Profession)	1.0
(12)	ENGL 199 (Essentials of Writing for Engineering Students)	3.0
(13)	MATH 100 (Calculus I)	3.5
(14)	MATH 101 (Calculus II)	4.5
(15)	MATH 200 (Linear Algebra and Infinite Series) (or equivalent)	3.0
(16)	MATH 201 (Differential Equations I) (or equivalent)	3.5
(17)	MATH 209 (Calculus III)	3.5
(18)	PHYS 131 (Mechanics)	3.8
(19)	PHYS 137 (Wave Motion and Electricity)	3.8
(20)	SOC 366 (People in Industry) (See Note C)	3.0
(21)	A total of two single-term courses in the areas of humanities, social sciences, or administrative studies. These courses should be selected from the following list of approved electives, although students may seek the permission of their Department Chair or program adviser to take alternate courses.	

Approved complementary Studies Electives:

Anthropology

ANTHR 101, 201, 230, 301, 306, 307.

Business

ACCT 300, LEG R 301. A quota exists on the number of engineering students permitted to register in other courses in the Faculty of Business. Please check with your Deparment Adviser if you wish to select your complementary studies electives from the Faculty of Business.

Classics

CLASS 141, 363, 364, 369, 370, 373, 374

Economics

ECON 204, 331, 355, 363, 365, 366, INT D 369. Where students have only three units of course weight as an elective which can be devoted to Economics, ECON 204 is the obvious choice.

English

ENGL 206, 239, 361, 365, 376

Engineering

ENGG 502

History

HIST 100, 242, 247, 260, 261, 298, 364, 377, 385, 396

Linguistics

LING 101, 102, 203, 204, 312, 319, 400, 407, 412. Either LING 101/102 or LING 203 will provide an introduction to the field of linguistics. LING 101/102 will give you a general overview of linguistics. LING 101 may be taken independently. LING 102 requires LING 101 as a prerequisite. LING 203 is a required prerequiste for many of the advanced courses.

Philosophy

PHIL 120, 125, 160, 205, 250, 301, 310, 322, 326, 350

Political Science

POL S 321, 322, 363. The Department of Political Science does not sequence their service courses, therefore, students taking POL S 321, 322, and 363 cannot contiue to other 300- and 400-level courses.

Psychology

PSYCO 104, 105, 258, 267

Romance Languages

Students can be admitted to courses appropriate to their background. Examples are: FR CA 222, FR CA 223, FREN 155, FREN 156, FREN 222, FREN 223, SPAN 252, SPAN 253. Please see your adviser. Students with the equivalent of French 30 from High School may register for FREN 155 or 156. Students who already have a reading knowledge of French may wish to consider registering for a course at a higher level and may take any of FREN 222, 223, FR CA 222, 223. Students may also be admitted to other courses offered by the Department of Romance Languages in French, Italian, Romance Linguistics, and Spanish provided they are able to demonstrate that they have the appropriate prerequisites or the equivalent.

Rural Economy

AG EC 323, 333, INT D 356, 365, 456, 465, R SOC 355, 391.

Sociology

SOC 100, 251, 300, 353

Please refer to the Calendar for the required prerequisites for each course listed above.

(22) At least 3 units of course weight in each of at least three of the following five areas:

a. Strength of Materials
b. Thermodynamics
c. Materials Science
d. Fundamental Electrical Engineering
e. Engineering Mechanics (Dynamics)

Note A: The course which meets this requirement will be found in the program for each Department.

Note B: Pass-Fail courses will not be accepted for credit unless specifically approved by the Dean.

Note C: A limited number of students will be permitted to replace SOC 366 with ENGG 505.

83.1.2 Business Course Electives for Engineering Students

Engineers often spend over 80% of their professional life in administrative and managerial positions. The Faculty of Engineering has entered into an agreement with the Faculty of Business to permit a limited number of engineering students to take business courses. The intent of the agreement is to permit an engineering student to select a number of electives in a given business area. Possible areas include: accounting, finance, industrial relations and management science. Interested students should contact the Office of the Dean of Engineering for referral to the Engineering-Business Adviser.

Programs of study within the Faculty of Engineering must meet the requirements set out in §83.1.1.

83.1.3 Combined Degree BSc in Engineering/Master of Business Administration

The Faculty has an arrangement with the Faculty of Business whereby students with suitable academic standing may choose electives which can be applied for advance credit towards a Master of Business Administration (MBA) degree. In this manner it is possible to complete part of the MBA degree requirements during the undergraduate engineering program. The MBA degree requires at least one additional year of study after graduation with a BSc in Engineering.

The combined program may be pursued in any of the engineering disciplines. Second year students interested in this program should consult with their Department to obtain complete details.

83.2 Recommended Program (All Engineering Students)

First Term	hours	units
CHEM 103 (Introductory University Chemistry I)	3-1s-3/2	4.3
ENGG 200 (Orientation to the Engineering Profession I)	1-0-0	1.0
ENGG 230 (Engineering Mechanics I)	3-0-2	4.0
EITHER		
ENCMP 100 (Computer Programming for Engineers)	3-0-1.5	3.8
OR		
ENGG 210 (Engineering Graphics)	2-0-3	3.5
AND		
ENGL 199 (Essentials of Writing for Engineering Students)	3-0-0	3.0
MATH 100 (Calculus I)	3-0-1	3.5
PHYS 131 (Mechanics)	3-0-3/2	3.8
	Total	20.4 or 23.1

Second Term	hours	units
CHEM 105 (Introductory University Chemistry II)	3-0-3/2	3.8
ENGG 201 (Orientation to the Engineering Profession II)	1-0-0	1.0
ENGG 231 (Engineering Mechanics II)	3-0-2	4.0
EITHER		
ENCMP 100 (Computer Programming for Engineers)	3-0-1.5	3.8
OR		
ENGG 210 (Engineering Graphics)	2-0-3	3.5
AND		
ENGL 199 (Essentials of Writing for Engineering Students)	3-0-0	3.0
MATH 101 (Calculus II)	4-0-1	4.5
PHYS 137 (Wave Motion and Electricity)	3-0-3/2	3.8
	Total	20.9 or 23.6

Note A: Students who take ENCMP 100 in the first term will take ENGG 210 and ENGL 199 in the second term. Students who take ENGG 210 and ENGL 199 in the first term will take ENCMP 100 in the second term.

83.3 Chemical Engineering — Third to Eighth Terms

83.3.1 General Information

The BSc program in Chemical Engineering provides a technical background to prepare students for careers in the chemical and petroleum processing industries, and in a variety of related fields. The program consists of courses in the basic sciences, fundamentals of chemical engineering and elective courses. The elective courses provide an opportunity to obtain background in areas such as computer applications, natural gas processing, environmental engineering, process dynamics and control, industrial catalysis, management sciences, biotechnology, food processing, and polymer engineering.

The Department program gives emphasis to computer applications both in the undergraduate and graduate courses of instruction and in research. This is made possible by the interest of the staff, by the unique facilities available in the Data Acquisition Control and Simulation Centre located in the department, and by University Computing Systems. Instruction is offered in computer oriented mathematical techniques, modelling, digital computer simulation, systems engineering, and in real-time computer applications.

83.3.2 Required Courses

In addition to the courses listed under §83.1.1, the following are required courses for a BSc in Chemical Engineering:

CHEM 261, CHEM 271; CH E 324, 356, 385, 412, 414, 416, 424, 451, 456, 485, 518, 534, 546, 553, 554, 556, 576, 581 and 583; E E 354.
Credit in one of MET E 352, MEC E 350, or CIV E 360.
Credit in ECON 204 or equivalent.
Credit in STAT 235 or equivalent.
Credit in CH E 476 or MATH 300.
Credit in CH E 558 or a technical elective.
Credit in five additional single-term approved technical electives. See Note B.

83.3.3 Recommended Program

Third Term	hours	units
CH E 324 (Engineering Thermodynamics)	3-1s-0	3.5
CHEM 271 (Chemical Thermodynamics)	3-0-3	4.5
ECON 204 (Principles of Economics)	3-0-0	3.0
OR		
MET E 352 (Materials Science II)	3-0-3/2	3.8
MATH 200 (Linear Algebra and Infinite Series)	3-0-0	3.0
MATH 209 (Calculus III)	3-0-1	3.5
Elective (eg. Humanities)	3-0-0	3.0
	Total	20.5 or 21.3

Note: Co-op students only must register in ENGG 300 in the Third Term, in addition to the above courses:

	hours	units
ENGG 300 (Orientation to Cooperative Education)	1-0-0	1.0

Note: Co-op students should refer to Table I in §82.5 for the study/work term sequencing.

Fourth Term	hours	units
CH E 356 (Process Analysis)	3-0-2	4.0
CH E 385 (Industrial Tours I)	0-0-0	0.0
E E 354 (Fundamentals of Electrical Engineering)	3-0-3/2	3.8
MATH 201 (Differential Equations I)	3-0-1	3.5
MET E 352 (Materials Science II)	3-0-3/2	3.8
OR		
ECON 204 (Principles of Economics)	3-0-0	3.0
STAT 235 (Introductory Statistics for Engineering)	3-0-2	4.0
	Total	18.3

Fifth Term	hours	units
CH E 412 (Fluid Mechanics)	3-1s-0	3.5
CH E 424 (Chemical Engineering Thermodynamics)	3-1s-0	3.5
CH E 451 (Chemical Engineering Laboratory I)	1-0-4	3.0
CH E 476 (Mathematical Application)	3-1s-0	3.5
OR		
MATH 300 (Advanced Calculus I)	3-0-0	3.0
CH E 485 (Industrial Tours II)	0-0-0	0.0
CHEM 261 (Organic Chemistry)	3-0-3	4.5
SOC 366 (People in Industry)	3-0-0	3.0
	Total	20.5 or 21.0

Sixth Term	hours	units
CH E 414 (Heat Transfer)	3-1s-0	3.5
CH E 416 (Equilibrium Stage Processes)	3-0-2	4.0
CH E 456 (Chemical Engineering Design I)	2-0-3	3.5
CH E 576 (Computational Methods in Chemical Engineering)	3-1s-0	3.5
Technical Elective	3-0-1	3.5
	Total	18.0

Seventh Term	hours	units
CHE 518 (Diffusion Operations)	2-0-2	3.0
CH E 534 (Chemical Reactor Analysis)	3-1s-0	3.5
CH E 546 (Process Dynamics and Control)	3-0-3/2	3.8
CH E 553 (Chemical Engineering Laboratory II)	1-0-4	3.0
CH E 581 (Colloquium I)	0-1-0	0.5
Technical Elective	3-1s-0	3.5
Technical Elective	3-0-3/2	3.8
	Total	21.1

Eighth Term	hours	units
CH E 554 (Chemical Engineering Laboratory III)	1-0-4	3.8
CH E 556 (Chemical Engineering Design II)	1-0-6	4.0
CH E 558 (Chemical Engineering Laboratory IV) (See Note A)	1-0-4	3.0
CH E 583 (Colloquium II)	0-1-0	0.5
ENGG 500 (The Practice of the Engineering Profession)	1-0-0	1.0
Technical Elective	3-0-0	3.0
Technical Elective	3-1s-0	3.5
Elective (eg., Humanities)	3-0-0	3.0
	Total	21.8

Note A: CH E 558 may be replaced by an approved technical elective.

Note B: One of the technical electives must be an approved three units of course weight chemistry course.

Note C: Total units are approximate depending upon choice of electives.

Note D: All programs require the approval of the Department of Chemical Engineering.

83.3.4 Elective Courses

In addition to required courses, programs in Chemical Engineering offer considerable flexibility through electives to develop interdisciplinary interests or to study certain fields in some depth. Subject only to feasibility of timetabling and course availability, a student may choose from technical elective courses offered by the Department (CH E 502, 520, 522, 536, 540, 555, 562 and 564) or courses offered by other Departments such as CIV E 520; MEC E 512, 513, 515, 543, 565; MET E 432, 457, 458, 530, 545; PET E 464, 466, 564, 568, 573, 575; ENGG 420, 506; BIOCH 301; CHEM 311; MICRB 193; CMPUT 169, 172; E E 379, 405, 479, 487, 514; GEOL 290, 292; FD SC 453, 454, 587.

A brief description of some fields in which electives may be chosen follows:

Computer Process Control

Industrial plants although designed for steady state operation often do not operate in this manner due to planned changes in process conditions or from unexpected disturbances, such as changes in raw materials. Process control is concerned with the development of control systems ranging from schemes that use simple instruments to sophisticated distributed digital computer systems which will keep industrial units operating at the desired conditions. An introduction to some of the more advanced concepts in process control can be obtained by selecting one or more of the appropriate elective courses given by the Department (CH E 540, CH E 562, CH E 564). Students interested in pursuing a career in the control and instrumentation field should consider the "Computer Process Control Option" described in §83.3.5.

Oil and Natural Gas

Chemical engineering graduates often find employment in industries which produce, process and refine natural gas, petroleum and oil sands. The Department offers electives in natural gas processing, energy resource development and properties of heavy oils and petroleum. Elective courses, concerned with petroleum production, are offered by the Department of Mining, Metallurgical and Petroleum Engineering.

Industrial Engineering and Management Sciences

Chemical engineers very frequently are employed in a position in which their primary function is technical management. For engineers involved in production or

lesign, many tasks will involve establishing optimal operating conditions. The Department elective course in optimization, taken in conjunction with courses offered by the Department of Mechanical Engineering in the operations management area (eg. MEC E 512, MEC E 513, MEC E 515) will provide pertinent background material for students interested in technical management.

By proper choice of electives, students may, depending on their academic standing, be able to select courses that may be applied for advance credit towards a Master of Business Administration (MBA) or Master of Arts (MA) in Economics.

Environmental Engineering

As a result of the need to protect the quality of our environment many chemical engineers are involved in developing technically and economically feasible solutions to environmental pollution problems. Electives such as the department elective course, CH E 502 and courses offered by the Departments of Civil and Mechanical Engineering will help students to become aware of environmental technology and also serve as appropriate background for those desiring to specialize in the environmental field.

83.3.5 Computer Process Control Option in Chemical Engineering

With the increased use of distributed digital computer control systems in the process industries, as well as microprocessor-based analyzers and instruments, there is a need for process engineers that have a background in areas that have traditionally been in the domain of the electrical engineer and computing scientist. This program, which retains all of the core chemical engineering courses, is designed to provide the necessary background for engineering positions that are concerned with the application of computers to the control of process systems.

Note: Enrollment in this option is limited.

Recommended Program

Third Term	hours	units
CH E 324 (Engineering Thermodynamics)	3-1s-0	3.5
CHEM 271 (Chemical Thermodynamics)	3-0-3	4.5
E 355 (Electrical Circuits I)	3-1s-3/2	4.3
MATH 205 (Linear Algebra and Differential Equations I)	4-0-0	4.0
MATH 209 (Calculus III)	3-0-1	3.5
Elective (See Note A)	3-0-3/4	3.4
	*Total	23.2

Note: Co-op students only must register in ENGG 300 in the Third Term, in addition to the above courses:

	hours	units
ENGG 300 (Orientation to Cooperative Education)	1-0-0	1.0

Note: Co-op students should refer to Table I in §82.5 for the study/work term sequencing.

Fourth Term	hours	units
CH E 356 (Process Analysis)	3-0-2	4.0
CH E 385 (Industrial Tours I)	0-0-0	0.0
E 356 (Electrical Circuits II)	3-1s-3/2	4.3
MATH 206 (Linear Algebra and Differential Equations II)	4-0-0	4.0
MET E 352 (Material Sciences II)	3-0-3/2	3.8
Elective (See Note A)	3-0-3/4	3.4
Elective (See Note A)	3-0-3	4.5
	*Total	24.0

Fifth Term	hours	units
CH E 412 (Fluid Mechanics)	3-1s-0	3.5
CH E 424 (Chemical Engineering Thermodynamics)	3-1s-0	3.5
CH E 451 (Chemical Engineering Laboratory I)	1-0-4	3.0
CH E 485 (Industrial Tours II)	0-0-0	0.0
CHEM 261 (Organic Chemistry)	3-0-3	4.5
E 435 (Signals and Networks)	3-1s-0	3.5
E 487 (Statistical Methods in Electrical Engineering)	3-0-0	3.0
	Total	21.0

Sixth Term	hours	units
CH E 414 (Heat Transfer)	3-1s-0	3.5
CH E 416 (Equilibrium Stage Processes)	3-0-2	4.0
CH E 456 (Chemical Engineering Design I)	2-0-3	3.5
CH E 546 (Process Dynamics and Control)	3-0-3/2	3.8
CHEM 311 (Instrumental Analysis for Engineers)	3-0-3	4.5
DOC 366 (People in Industry)	3-0-0	3.0
	Total	22.3

Seventh Term	hours	units
CH E 518 (Diffusion Operations)	2-0-2	3.0
CH E 534 (Chemical Reactor Analysis)	3-1s-0	3.5
CH E 540 (Introduction to Real-Time Computer Applications)	3-0-3/2	3.8
CH E 553 (Chemical Engineering Laboratory II)	1-0-4	3.0
CH E 581 (Colloquium I)	0-1-0	0.5
ECON 204 (Principles of Economics)	3-0-0	3.0
Elective (See Note B)	3-0-3/4	3.4
Elective (Humanities)	3-0-0	3.0
	*Total	23.2

Eighth Term	hours	units
CH E 554 (Chemical Engineering Laboratory III)	1-0-4	3.0
CH E 556 (Chemical Engineering Design II)	1-0-6	4.0
CH E 562 (Process Modelling and Simulation)	3-0-3/2	3.8
CH E 564 (Process Control)	3-0-3/2	3.8
CH E 583 (Colloquium II)	0-1-0	0.5
ENGG 500 (The Practice of the Engineering Profession)	1-0-0	1.0
Elective (See Note B)	3-1s-0	3.5
Elective (Humanities)	3-0-0	3.0
	*Total	22.6

*Total units are approximate depending on choice of electives.

Note A: CMPUT 169, E E 379 and E E 479 are required courses.

Note B: Select either CH E 558 plus E E 538 or CMPUT 172 plus one additional Computing Science course selected from §194.9.2.

Note C: All programs require the approval of the Department of Chemical Engineering.

83.3.6 Biotechnology Specialization in Chemical Engineering

Advances in molecular biology have given rise to important new biotechnology industries, which produce a range of products for medical, agricultural, food and chemical applications. Chemical engineers work in this industry on the design, development, and operation of production and separation processes. Interested students can pursue specialization in biotechnology by supplementing their chemistry training with courses in the life sciences, without sacrificing any core chemical engineering courses. Students graduating with these electives are qualified to enter conventional chemical engineering positions, and also have the training to work in biotechnology, pharmaceutical, and food process companies as process engineers. This program also provides the necessary background for graduate study in engineering aspects of biotechnology.

Departures or substitution from the regular Chemical Engineering program on a term by term basis are:

Term 3: CHEM 261 (Organic Chemistry I) to replace elective.

Term 4: CHEM 263 (Organic Chemistry II) as a technical elective.
MICRB 193 (Introductory Microbiology) to replace ECON 204.
ECON 204 to be taken instead in Term 7.

Term 5: BIOCH 301 (first half of General Biochemistry) to replace CHEM 261

Term 6: BIOCH 301 (second half of General Biochemistry) as a technical elective.
GENET 197 (Heredity) as a technical elective

Term 7: GENET 270 (Foundations of Molecular Genetics) as a technical elective.
ECON 204 (from Term 4)

Term 8: MICRB 265 (General Microbiology II) as technical elective.

Other courses in Microbiology, Biochemistry, Genetics, and Food Science may be substituted or added subject to prerequisites and general degree requirements.

83.4 Civil Engineering — Third to Eighth Terms

83.4.1 General Information

The Civil Engineering curriculum provides the preparation required for a professional career in the design, construction and management of civil engineering projects. The curriculum concentrates initially on mathematics, pure sciences and engineering sciences. The study of these subjects serves as preparation for professional courses in a variety of Civil Engineering disciplines which follow later in the program.

All students take a core program which provides the basis for professional practice in the disciplines of: construction engineering, which involves the management of a variety of civil engineering construction projects; environmental engineering, which deals with water supply, municipal development, and the treatment of industrial and municipal wastes; geotechnical engineering which deals with foundations, embankments, dams and tunnels; water resources engineering which deals with the control, distribution and drainage of surface and subsurface water for power production, irrigation and other human needs; structural engineering, which deals with buildings and bridges; and, transportation engineering, which deals with planning and design of all forms of transportation systems. Elective courses are provided to permit some degree of specialization in the above disciplines. Patterns of elective courses are also offered in surveying.

Mathematics and computer courses are oriented to engineering practice. Use of the computer is introduced early in the program, and other courses in civil engineering apply computer techniques to the solution of problems in the particular specialized disciplines of civil engineering.

To balance the necessary technical emphasis, civil engineering students study economics, communicative arts and humanities so that they will be aware of the influence of their decisions on the lives of others.

83.4.2 Required Courses

In addition to the courses listed under §83.1.1, the following courses are required for a BSc in Civil Engineering:

(1) CIV E 305, 320, 350, 351, 360, 361, 401, 404, 406, 409, 410, 430, 431, 441, 460, 471, 480, 500, 503, 520, 570, 572, 590; E E 301; ENGG 420; GEOL 290; MEC E 350; MET E 352.

(2) MEC E 413 (to satisfy the economics course requirement of §83.1.1(3)).

(3) Two additional courses must be taken as technical electives for a total unit value greater than six, which may be selected from:

a. the technical electives listed in §83.4.6, or

b. approved courses offered by other Engineering Departments, or,

c. approved courses offered by other faculties.

All programs must be approved by the Department of Civil Engineering.

83.4.3 Construction Engineering

A series of four courses may be taken in the field of construction engineering (CIV E 402, CIV E 403, CIV E 506, CIV E 507) in the third and fourth years of the program. Students with a particular interest in a career in construction engineering should plan to take two of the construction engineering electives as the two required technical electives and to take CIV E 507 in lieu of ENGG 420. This substitution of CIV E 507 for ENGG 420 will only be accepted if the student takes a minimum of two construction engineering electives, not including CIV E 507. With Department approval, students may take the fourth construction engineering elective as an extra course.

83.4.4 Recommended Program

Third Term	hours	units
CIV E 360 (Mechanics of Deformable Bodies I)	3-0-3	4.5
E E 301 (Elements of Electrical Engineering)	3-0-3/2	3.8
GEOL 290 (Engineering Earth Sciences)	3-0-3	4.5
MATH 209 (Calculus III)	3-0-1	3.5
MET E 352 (Materials Science II)	3-0-3/2	3.8
Elective (Humanities)	3-0-0	3.0
	Total	23.1

Note: Co-op students only must register in ENGG 300 in the Third Term, in addition to the above courses:

	hours	units
ENGG 300 (Orientation to Cooperative Education)	1-0-0	1.0

Note: Co-op students should refer to Table I in §82.5 for the study/work term sequencing. Please also refer to the Recommended Program for Co-op students listed in §83.4.5.

Fourth Term	hours	units
CIV E 305 (Civil Engineering Analysis I)	2-0-2/2	2.5
CIV E 320 (Environmental Engineering I)	3-0-3/2	3.8
CIV E 350 (Plane Surveying)	2-0-2	3.0
CIV E 351 (Survey School)	2 weeks at end of 4th term.*	3.0
CIV E 361 (Introduction to Continuum Mechanics)	3-1s-0	3.5
MATH 200 (Linear Algebra and Infinite Series)	3-0-0	3.0
MATH 201 (Differential Equations)	3-0-1	3.5
MEC E 350 (Engineering Mechanics III)	3-0-1	3.5
	Total	25.8

*Students will be charged for room and board.

Fifth Term	hours	units
CIV E 401 (Civil Engineering Materials)	3-0-3	4.5
CIV E 404 (Civil Engineering Analysis I)	2-0-2/2	2.5
CIV E 409 (Project Management)	3-0-3/2	3.8
CIV E 430 (Introduction to Fluid Mechanics)	3-0-3/2	3.8
CIV E 441 (Hydrology)	3-0-3/2	3.8
CIV E 460 (Structural Analysis I)	3-1s-0	3.5
	Total	21.9

Sixth Term	hours	units
CIV E 406 (Civil Engineering Analysis III)	3-0-2	4.0
CIV E 410 (Transportation Engineering)	3-0-3/2	3.8
CIV E 431 (Hydraulics)	3-0-3	4.5
CIV E 471 (Structural Design I)	2-0-3/2	2.8
CIV E 480 (Soil Mechanics)	3-0-3	4.5
MEC E 413 (Engineering Economy)	3-0-0	3.0
	Total	22.6

Seventh Term	hours	units
CIV E 520 (Environmental Engineering II)	3-0-3/2	3.8
CIV E 570 (Structural Design II)	3-0-3	4.5
CIV E 572 (Structural Design III)	3-0-3	4.5
CIV E 590 (Geotechnical Engineering)	3-0-3	4.5
Elective (Technical) (See Note A)	3-0-0	3.0
	Total	20.3

Eighth Term	hours	units
CIV E 500 (Civil Engineering Report Writing)	1-2s-0	2.0
CIV E 503 (Civil Engineering Application of Operations Research)	2-0-2	3.0
ENGG 420 (Engineering Law)	3-0-0	3.0
ENGG 500 (The Practice of the Engineering Profession)	1-0-0	1.0
SOC 366 (People in Industry)	3-0-0	3.0
Elective (Humanities)	3-0-0	3.0
Elective (Technical) (See Note A)	3-0-3	4.5
	Total	19.5

83.4.5 Recommended Program (Co-op)

The recommended program for the first, second, third, fourth, seventh and eighth terms is as for the regular program. The recommended program for the fifth and sixth terms is as follows:

Fifth Term	hours	units
CIV E 401 (Civil Engineering Materials)	3-0-3	4.5
CIV E 404 (Civil Engineering Analysis II)	2-0-2/2	2.5
CIV E 406 (Civil Engineering Analysis III)	3-0-2	4.0
CIV E 430 (Introduction to Fluid Mechanics)	3-0-3/2	3.8
CIV E 471 (Structural Design I)	2-0-3/2	2.8
MEC E 413 (Engineering Economy)	3-0-0	3.0
	Total	20.6

Sixth Term	hours	units
CIV E 409 (Project Management)	3-0-3/2	3.8
CIV E 410 (Transportation Engineering)	3-0-3/2	3.8
CIV E 431 (Hydraulics)	3-0-3	4.5
CIV E 441 (Hydrology)	3-0-3/2	3.8
CIV E 460 (Structural Analysis I)	3-1s-0	3.5
CIV E 480 (Soil Mechanics)	3-0-3	4.5
	Total	23.9

Note A: Since the hours of instruction are dependent upon the electives chosen, the units shown in the tables are approximate. See also §§83.4.2(3) and 83.4.3.

83.4.6 Technical Electives

Electives recommended by the Department of Civil Engineering in its various disciplines are:

Construction Engineering	hours	units
CIV E 402 (Construction Materials and Methods)	3-0-3	4.5
CIV E 403 (Construction Planning, Scheduling and Cost Control)	3-0-3	4.5
CIV E 506 (Construction Estimating and Cost Control)	3-0-3	4.5
CIV E 507 (Construction Contract Documents)	3-0-3/2	3.

Environmental Engineering	hours	units
CIV E 502 (Impact of Engineering Projects)	3-2s/2-0	3.5
CIV E 521 (Municipal Engineering)	3-0-3	4.5
Geotechnical Engineering	hours	units
GEOL 291 (Engineering Geology)	3-0-3	4.5
CIV E 591 (Geotechnical Design)	3-0-3	4.5
Structural Engineering	hours	units
CIV E 560 (Structural Analysis II)	3-2s-0	4.0
CIV E 571 (Structural Design IV)	3-0-3	4.5
Survey Engineering		
CIV E 451 (Elementary Photogrammetry)	3-0-3	4.5
CIV E 452 (Field Astronomy)	3-0-3	4.5
CIV E 550 (Hydrographic Surveying)	3-0-3	4.5
CIV E 551 (Geodesy)	3-0-3	4.5
CIV E 552 (Survey Adjustments and Data Analysis)	3-0-3	4.5
CIV E 553 (Surveying: Advanced Topics)	3-0-3	4.5
Transportation Engineering		
CIV E 511 (Transportation Operations and Planning)	3-0-3/2	3.8
CIV E 512 (Town Planning)	3-1s-0	3.5
Water Resources Engineering	hours	units
CIV E 531 (Environmental Fluid Mechanics)	3-0-2	4.0
CIV E 540 (Hydraulic Engineering)	3-0-3	4.5

Note A: As noted in §83.4.2(3), alternate technical electives may be taken upon approval by the Department.

83.5 Computer Engineering — Third to Eighth Terms

83.5.1 General Information

Computer Engineering is a program which provides a grounding in both software and hardware aspects of computers and their applications. The program is offered co-operatively by the Departments of Electrical Engineering and Computing Science. Software topics include operating systems, programming languages, and data structures, while the hardware aspect includes electronics, digital logic, and microprocessors. Please note that Faculty of Engineering quota restrictions apply.

83.5.2 Required Courses

In addition to the courses listed under §83.1.1 the following are required courses for a BSc in Computer Engineering:
CMPUT 169, 172, 204, 225, 379; CMP E 413, 482, 501; E E 331, 355, 356, 379, 417, 435, 470, 471, 479, 487, 489, 535, 537, 538, 562; ENGG 500; MATH 205, 206, 209; MEC E 413; PHYS 238; two of CH E 324, MEC E 350, MET E 451; two technical electives of which one must be a 300- or 400-level Computing Science course.

83.5.3 Recommended Program

Third Term	hours	units
CMPUT 169 (Structured Programming and Data Structures)	3-0-3	4.5
E E 355 (Electrical Circuits I)	3-1s-3/2	4.3
E E 379 (Introduction to Digital Electronics)	3-0-3/4	3.4
MATH 205 (Linear Algebra and Differential Equations I)	4-0-0	4.0
MATH 209 (Calculus III)	3-0-1	3.5
Elective (see Note A)	3-0-0	3.0
	Total	22.7

Note: Co-op students only register in ENGG 300 in the Third Term, in addition to the above courses:

	hours	units
ENGG 300 (Orientation to Cooperative Education)	1-0-0	1.0

Note: Co-op students should refer to Table I in §82.5 for the study/work term sequencing.

Fourth Term	hours	units
CMPUT 172 (Formal Systems and Logic in Computing Science)	3-1s-0	3.5
E E 356 (Electrical Circuits II)	3-1s-3/2	4.3
E E 479 (Introduction to Microprocessors)	3-0-3/4	3.4
MATH 206 (Linear Algebra and Differential Equations II)	4-0-0	4.0
PHYS 238 (Electromagnetism and Optics)	3-0-3/2	3.8
Elective (see Note A)	3-0-0	3.0
	Total	22.0

Fifth Term	hours	uni
CMPUT 204 (Algorithms I)	3-0-0	3.
CMPUT 225 (Programming Languages I)	3-0-2	4.
E E 435 (Signals and Networks)	3-1s-0	3.
E E 470 (Electronics I Active Devices)	3-1s-3/2	4.
E E 487 (Statistical Methods in Electrical Engineering)	3-0-0	3.
E E 535 (Advanced Digital Logic Design)	3-0-3/4	3.
	Total	21.

Sixth Term	hours	uni
CMP E 413 (Software Engineering)	3-0-3	4.
CMP E 482 (Computer Organization and Architecture)	3-0-0	3.
E E 331 (Electrical Engineering Design II)	2-1s-0	2.
E E 417 (Electromagnetics for Computer Engineers)	3-0-0	3.
E E 471 (Electronics II Active Devices)	3-1s-3/2	4.
Elective (see Note A)	3-0-0	3.
	Total	20

Seventh Term	hours	uni
CMP E 501 (Computer Interfacing)	3-0-3/2	3.
CMPUT 379 (Operating System Concepts)	3-0-3	4.
E E 489 (Introduction to Communications Systems)	3-0-0	3.
E E 538 (Introduction to Signal Theory and Processing)	3-0-3/4	3.
Elective (see Note A)	3-0-0	3.
Technical Elective (see Note B)	3-0-0	3.
	Total	20

Eighth Term	hours	uni
E E 537 (Advanced Digital Topics)	1-0-4	3.
E E 562 (Control Systems for Computer Engineers)	3-0-3/2	3.
ENGG 500 (The Practice of the Engineering Profession)	1-0-0	1.
MEC E 413 (Engineering Economy)	3-0-0	3.
Non-technical Elective	3-0-0	3.
Elective (see Note A)	3-0-0	3.
Technical Elective (see Note B)	3-0-0	3.
	Total	19

Note A: Five elective courses must be taken in t third, fourth, sixth, seventh, and eighth terms. The must include three complementary studies courses a two of CH E 324, MEC E 350, or MET E 451. The thr complementary studies courses must include SOC 36 ENGG 502 is recommended as another selection.

Note B: One of the technical electives must be 300- or 400-level Computing Science course.

83.6 Electrical Engineering — Third to Eighth terms

83.6.1 General Information

The Electrical Engineering program is a gene program balancing theory and practice. It allows fo choice of third and fourth year options. In this progr the core material consists of courses in the ba sciences and electrical engineeering. This provide basis for more intensive studies in a number of spec ized areas in Electrical Engineering. These areas covered by elective courses which may be chosen meet the student's requirements. Some of these ar are Lasers, Plasmas, Control Systems, Power Syste Microwave, Communications, High Vacuum, Biomed Engineering, and Digital Electronics.

83.6.2 Required Courses

In addition to the other courses listed under §83. the following are required courses for a BSc in Electr Engineering: E E 331, 355, 356, 379, 415, 416, 4 431, 435, 460, 470, 471, 487, 489, *521, 538, 560, 5 ENGG 502 or other Complementary Studies Elect MATH 205, 206, 209, 311; PHYS 238; CH E 324; ME 350, 413; and credit in six technical electives wh must include one of the following subject groups:
Power: Three of EE 501, 507, 525, 527, 531, 533, 5
Electronics: E E 479, 571, 572.
Control Systems: E E 479, 535, 537, 561.
Communications: E E 539, 571, 588, 591.
Digital: E E 479, 535, 537, 571
Computer: E E 479, 535, 537; CMPUT 115 or 169, 1 204 or 291.

***Note:** For the computer stream E E 521 is no required course and the required courses E E 415 416 are to be taken in the seventh and eighth te respectively.

The remaining technical electives for each subject group require the consent of Department.

83.6.3 Recommended Program

Third Term	hours	units
E E 355 (Electrical Circuits I)	3-1s-3/2	4.3
E E 379 (Introduction to Digital Electronics)	3-0-3/4	3.4
MATH 205 (Linear Algebra and Differential Equations I)	4-0-0	4.0
MATH 209 (Calculus III)	3-0-1	3.5
MEC E 350 (Engineering Mechanics III)	3-0-1	3.5
Elective (Non-Technical, see Note B)	3-0-0	3.0
	Total	21.7

Note: Co-op students only must register in ENGG 300 in the Third Term, in addition to the above courses:

	hours	units
ENGG 300 (Orientation to Cooperative Education)	1-0-0	1.0

Note: Co-op students should refer to Table I in §82.5 for the study/work term sequencing.

Fourth Term	hours	units
CH E 324 (Thermodynamics)	3-1s-0	3.5
E E 331 (E E Design II)	2-1s-0	2.5
E E 356 (Electrical Circuits II)	3-1s-3/2	4.3
MATH 206 (Linear Algebra and Differential Equations II)	4-0-0	4.0
PHYS 238 (Electromagnetism and Optics)	3-0-3/2	3.8
Elective (Non-technical, see Note B)	3-0-0	3.0
	Total	21.1

Fifth Term (See Note A)	hours	units
E E 415 (Engineering Electromagnetics I)	3-1s-0	3.5
E E 430 (Electromechanics I)	3-0-0	3.0
E E 435 (Signals and Networks)	3-1s-0	3.5
E E 470 (Electronics I)	3-1s-3/2	4.3
MATH 311 (Complex Variables)	3-0-0	3.0
Elective (Technical)	3-0-3/4	3.4
	Total	20.7

Sixth Term (See Note A)	hours	units
E E 416 (Engineering Electromagnetics II)	2-1s-0	2.5
ENGG 502 (Project Management and Entrepreneurship)	3-0-0	3.0
or		
Other Complementary Studies Elective	3-0-0	3.0
E E 431 (Electromechanics II)	3-0-3/2	3.8
E E 460 (Introduction to Linear Systems)	3-0-3/4	3.4
E E 471 (Electronics II)	3-1s-3/2	4.3
E E 489 (Introduction to Communication Systems)	3-0-0	3.0
	Total	20.0

Seventh Term (See Note A)	hours	units
E E 487 (Statistical Methods in Electrical Engineering)	3-0-0	3.0
E E 521 (Power Systems I)	3-0-0	3.0
E E 560 (Control Systems I)	3-0-3/2	3.8
E E 570 (Electronics III)	3-0-3	4.5
E E 538 (Introduction to Signal Theory and Processing)	3-0-3/4	3.4
Elective (Technical)	3-0-0	3.0
	Total	20.7

Eighth Term (See Note A)	hours	units
ENGG 500 (The Practice of the Engineering Profession)	1-0-0	1.0
MEC E 413 (Engineering Economics)	3-0-0	3.0
Elective (Non-Technical)	3-0-0	3.0
Electives (Technical)	12-0-9/2	14.3
	Total	21.3

Note A: Modifications for the computing stream: CMPUT 115, 285 replace E E 415, 416 in terms 5, 6. E E 415, 416 are then taken in terms 7, 8. CMPUT 204, 291 replace ENGG 502 or other Complementary Studies Elective and E E 521. E E 479, 535, 537, and 571 are required in place of 3 technical electives.

Note B: One non-technical elective must be SOC 366.

83.6.4 Technical Electives

	hours	units
E E 479 (Introduction to Microprocessors)	3-0-3/4	3.4
E E 501 (Electrical Design)	3-0-0	3.0
E E 507 (High Voltage Engineering)	3-0-3/2	3.8
E E AS 512 (Physical Measurements in Medicine)	3-1s-0	3.5
E E 514 (Reliability Engineering)	3-0-0	3.0
E E 525 (Power Systems II)	3-0-0	3.0
E E 527 (Industrial Power Distribution)	3-0-0	3.0
E E 531 (Power Electronics)	3-0-3	4.5
E E 533 (Electrical Energy Sources)	3-0-0	3.0
E E 535 (Advanced Digital Logic Design)	3-0-3/4	3.4
E E 537 (Advanced Digital Topics)	1-0-4	3.0
E E 539 (Digital Signal Processing)	3-0-0	3.0
E E 541 (High Vacuum Technology)	3-0-3/2	3.8
E E 545 (Electrical Instruments and Relays)	3-0-3	3.5
E E 550 (Analog Filter Design)	3-0-0	3.0
E E 552 (Computer Aided Circuit Design)	3-1s-0	3.5
E E 561 (Control Systems II)	3-0-3/2	3.8
E E 571 (Electronics IV)	3-0-3	4.5
E E 572 (Physical Electronics)	3-0-0	3.0
E E 573 (Introduction to Integrated Circuits)	3-0-0	3.0
E E 575 (Generation of High Frequencies)	3-0-3/2	3.8
E E 577 (Pulse and Waveshaping Circuits)	3-0-0	3.0
E E 583 (Introduction to Plasma and Fusion)	3-0-0	3.0
E E 585 (Acoustics)	3-0-0	3.0
E E 586 (Introduction to Optical Fibre Communications)	3-0-0	3.0
E E 588 (Communication in Noise)	3-0-0	3.0
E E 589 (Telecommunication Systems)	3-1s-0	3.5
E E 591 (Antennas and Propagation)	3-0-0	3.0
E E 593 (Advanced Topics in Engineering Electromagnetics)	3-0-0	3.0
E E 596 (Introduction to Principles of Lasers)	3-0-0	3.0
E E 597 (Microwave Engineering)	3-0-3/2	3.8
E E 598 (Special Problems I)	3-0-0	3.0
E E 599 (Special Problems II)	3-0-0	3.0
CH E 560 (Man and His Environment)	3-1s-0	3.5
EE AS 540 (Digital Computer Processing of Images)	3-0-0	3.0

In addition to this list, other courses (e.g., BIOL 110, CMPUT 358, LEG R 301, etc.) may be taken on approval of the Department.

83.7 Engineering Physics — Third to Eighth Terms

83.7.1 General Information

The Engineering Physics Program, offered in co-operation with the Department of Physics, leads to the degree of BSc in Engineering Physics. It is of a more fundamental nature than the Electrical Engineering Program. It provides students with an extensive background in mathematics and physics.

Students who wish to take Engineering Physics must have a high standing in mathematics and physics and normally will be required to have a minimum grade-point average of 7.0 in the first year. Exceptions to this rule may be made by the Chair of the Department of Electrical Engineering.

In this program the core material consists of courses in the basic sciences and electrical engineering. This provides a basis for more intensive studies in a number of specialized areas in Electrical Engineering. These areas are covered by elective courses which may be chosen to meet the student's requirements. Some of these areas are Lasers, Plasmas, Communications, Microelectronics, Microwave, and High Vacuum.

83.7.2 Required Courses

In addition to the courses listed under §83.1.1, the following are required courses for a BSc in Engineering Physics: E E 331, 355, 356, 423, 431, 435, 470, 471, 538, 562, 570, 594, 595; MEC E 413; MET E 351; MATH 205, 206, 209, 311; PHYS 211, 244, 271, 285, 292, 362, 372, 382, 397, 409, 415. In addition, three technical electives (requiring departmental approval).

83.7.3 Recommended Program

Third Term	hours	units
E E 355 (Electrical Circuits)	3-1s-3/2	4.3
MATH 205 (Linear Algebra and Differential Equations I)	4-0-0	4.0
MATH 209 (Calculus III)	3-0-1	3.5
MET E 351 (Materials Science I)	3-0-0	3.0
PHYS 285 (Electromagnetism and Optics)	3-0-0	3.0
PHYS 292 (Physics Laboratory I)	0-0-3	1.5
SOC 366 (People in Industry)	3-0-0	3.0
	Total	22.3

Fourth Term	hours	units
E E 356 (Electrical Circuits II)	3-1s-3/2	4.3
E E 331 (E E Design II)	2-1s-0	2.5
MATH 206 (Linear Algebra and Differential Equations II)	4-0-0	4.0
PHYS 211 (Heat, Thermodynamics and Kinetic Theory)	3-0-0	3.0
PHYS 244 (Mechanics)	3-0-0	3.0
PHYS 271 (Introductory Atomic and Nuclear Physics)	3-0-0	3.0
PHYS 292 (Physics Laboratory I)	0-0-3	1.5
	Total	21.3

Fifth Term	hours	units
E E 435 (Signals and Networks)	3-1s-0	3.5
E E 470 (Electronics I)	3-1s-3/2	4.3
MATH 311 (Complex Variables)	3-0-0	3.0
PHYS 382 (Electromagnetic Theory)	3-0-0	3.0
PHYS 362 (Physical Optics)	3-0-0	3.0
Complementary Studies Elective	3-0-0	3.0
	Total	20.5

Sixth Term	hours	units
E E 423 (Analytical Methods of Electrical Engineering)	3-1s-0	3.5
E E 471 (Electronics II)	3-1s-3/2	4.3
PHYS 372 (Quantum Mechanics A)	3-0-0	3.0
PHYS 382 (Electromagnetic Theory)	3-0-0	3.0
PHYS 397 (Physics Laboratory)	0-0-6	3.0
one of:		
E E 431 (Electromechanics II)	3-0-3/2	3.8
E E 479 (Introduction to Microprocessors)	3-0-3/4	3.4
E E 489 (Introduction to Communication Systems)	3-0-0	3.0
	Total	19.8

Seventh Term	hours	units
E E 538 (Introduction to Signal Theory and Processing)	3-0-3/4	3.4
E E 570 (Electronics III)	3-0-3	4.5
E E 594 (Research Project Seminar)	0-1s-0	0.5
PHYS 409 (Statistical Physics for Engineers)	3-0-0	3.0
PHYS 415 (Introduction to Condensed Matter Physics I)	3-0-0	3.0
Elective (Technical)*	3-0-0	3.0
Elective (Non-Technical)	3-0-0	3.0
	Total	19.4

Eighth Term	hours	units
E E 562 (Control Systems for Computer Engineers)	3-0-3/2	3.8
E E 595 (Research Project)	0-0-6	3.0
ENGG 500 (The Practice of the Engineering Profession)	1-0-0	1.0
MEC E 413 (Engineering Evaluation)	3-0-0	3.0
Elective (Non-Technical)	3-0-0	3.0
Electives (Technical)*	6-0-0	6.0
	Total	19.8

*Students may choose technical electives of their own choice with the consent of Department.

Note: Students may take an extra course per term if their GPA is at least 7.0.

83.8 Mechanical Engineering — Third to Eighth Terms

83.8.1 General Information

The program of studies in Mechanical Engineering provides a background for careers in research, development, design, and manufacture in a wide variety of industries. Graduates normally go into industries such as manufacturing, petro-chemical, pulp and paper, construction, consulting, and energy and resource related industries.

Because of the variety of concepts within Mechanical Engineering there is a considerable selection of courses available. To provide some guidelines in assisting students to choose courses, the department offers patterns of study in each of four general areas, Applied Mechanics, Design, Engineering Management and Thermo-Science. There can be overlap in many of these areas. Students may select their courses for basic knowledge prior to seeking a career in technical management, or can select courses as a foundation for a career in research and development. In Applied Mechanics the work emphasizes mechanics of materials, statics and dynamics, vibrations, continuum mechanics, elasticity, plasticity, and stability. Design brings together elements from the other three areas. It is concerned with comprehensive systems design, product design, mechanical analysis and mechanisms design, and component design. Engineering Management caters to students whose interest is the planning and implementation of economic and management systems, especially those applied to scientific and engineering endeavors. In Thermo-Science, courses are offered in thermodynamics, thermopower systems, energy conversion, fluid mechanics and heat transfer.

83.8.2 Required Courses

In addition to the courses listed in §83.1.1, the following courses are required for a BSc in Mechanical Engineering:

(1) CH E 324; CIV E 360; E E 354; MEC E 350, 361, 400, 401 403, 413, 431, 440, 451, 461, 462, 482, 501, 532, 561, 562, 571, 584; MET E 352; PHYS 238; STAT 235.

(2) Credit in one of CH E 476 or MATH 300.

(3) Credit in one of CH E 546 or E E 569.

(4) Credit in a minimum of seven other courses not including those required in the first and second terms. Three of these must be complementary studies electives in order to satisfy Faculty requirements. One of the elective courses must be a course in Electrical Engineering. Because hours of instruction depend on the elective chosen, the numbers shown in the tables are approximate.

83.8.3 Recommended Program

Third Term	hours	units
CIV E 360 (Mechanics of Deformable Bodies)	3-0-3	4.5
MATH 200 (Linear Algebra and Infinite Series)	3-0-0	3.0
MATH 209 (Calculus III)	3-0-1	3.5
MEC E 350 (Engineering Mechanics III)	3-0-1	3.5
PHYS 238 (Electromagnetism and Optics)	3-0-3/2	3.8
Elective	3-0-0	3.0
	Total	21.3

Note: Co-op students only must register in ENGG 300 in the Third Term, in addition to the above courses:

	hours	units
ENGG 300 (Orientation to Cooperative Education)	1-0-0	1.0

Note: Co-op students should refer to Table I in §82.5 for the study/work term sequencing.

Fourth Term	hours	units
CH E 324 (Engineering Thermodynamics)	3-1s-0	3.5
E E 354 (Fundamentals of Electrical Engineering)	3-0-3/2	3.8
MATH 201 (Differential Equations I)	3-0-1	3.5
MEC E 361 (Mechanical Design I)	2-0-3	3.5
MET E 352 (Materials Science II)	3-0-3/2	3.8
STAT 235 (Introductory Statistics for Engineering)	3-0-2	4.0
	Total	22.1

Fifth Term	hours	units
MATH 300 (Advanced Calculus I)	3-0-0	3.0
or		
CH E 476 (Mathematical Application)	3-1s-0	3.5
MEC E 400 (Mechanical Measurements)	3-0-0	3.0
MEC E 401 (Mechanical Engineering Laboratory)	1-0-3	2.5
MEC E 431 (Fluid Mechanics)	3-0-1	3.5
MEC E 461 (Mechanics of Machines)	3-0-3/2	3.8
MEC E 482 (Advanced Strength of Materials)	3-0-0	3.0
	Total	18.8 or 19.3

Sixth Term	hours	units
MEC E 403 (Mechanical Engineering Laboratory I)	1-0-3	2.5
MEC E 413 (Engineering Economy)	3-0-0	3.0
MEC E 440 (Applied Thermodynamics)	3-0-0	3.0
MEC E 462 (Mechanical Design II)	3-0-3/2	3.8
MEC E 491 Computer-Aided Engineering)	3-0-1	3.5
or		
MEC E 415 (Analytical Decision Making with Microcomputers)	3-0-1	3.5
Elective	3-0-0	3.0
	Total	18.8

Seventh Term	hours	units
MEC E 501 (Engineering Design)	2-0-0	2.0
MEC E 532 (Compressible Flow)	3-0-0	3.0
MEC E 550 (Vibrations and Sound)	3-0-1	3.5
MEC E 571 (Heat Transfer)	3-1s-0	3.5
MEC E 584 (Advanced Strength of Materials II)	3-0-0	3.0
Elective	3-0-0	3.0
Elective	3-0-0	3.0
	Total	21.0

Eighth Term	hours	units
MEC E 561 (Design Project)	1-0-4	3.0
MEC E 562 (Mechanical Systems Design)	3-0-2	4.0
E E 569 (Feedback Control Systems for Mechanical Engineers)	3-0-3/2	3.8
or		
CH E 546 (Computer Applications in Process Control)	3-0-3/2	3.8
ENGG 500 (The Practice of the Engineering Profession)	1-0-0	1.0
Elective	3-0-0	3.0
Elective	3-0-0	3.0
Elective	3-0-0	3.0
	Total	20.8

Note A: MEC E 413 (**Sixth term**) fills the requirement set out in §83.1.1(3) for a single-term course in Engineering Economics.

83.8.4 Elective Courses

Electives in the Mechanical Engineering Programs may be chosen from courses offered by the Faculties of Engineering, Agriculture and Forestry, Arts, Business, or Science. Listed below are some of the electives. Students taking electives not on this list should consult their faculty adviser before registering.

Typical elective courses are: CIV E 320, 520; EE 379, 405; GEOL 290; ENGG 420; MATH 311, 343, 414; MEC E 412, 450, 464, 490, 491, 509, 512, 513, 514, 515, 523, 531, 537, 541, 543, 552, 553, 555, 563, 565, 569, 570; MET E 356, 450, 457, 545, 567.

Mechanical Engineering Systems and Engineering Management are fields within mechanical engineering. Generally, the electives relating to a single field are scheduled and timetabled so that a student can take several courses in a single field and thus acquire depth in the area.

A general description of several fields is given below. Details of specific courses offered each year are available from the Department.

Mechanical Engineering Systems

Students who would like to obtain a more extensive understanding of a particular field may take several optional courses, including projects and experiments which concentrate on this area. These areas include energy conversion and combustion, advanced dynamics and acoustics, robotics, advanced heat transfer, aerodynamics, and environmental fluid mechanics. These optional courses are extensions of those offered in the core program and include the implications of these topics on the design of realistic systems. Many of these courses are useful in the preparation of students who are considering postgraduate study or who are planning careers in research and development.

Engineering Management

Engineering management is the application of engineering methods and the principles of scientific management to production, design, improvement, and installation of integrated systems of personnel, materials and equipment. A series of optional courses which includes operations management, reliability and maintenance, as well as the use of computers in analytical decision making, offer additional preparation for students interested in this area. These courses can be supplemented with others in the Faculty of Business to provide an enhanced background or can assist in preparation for advanced postgraduate study in Engineering Management or Business Administration.

83.9 Mining, Metallurgical, and Petroleum Engineering — Third to Eighth Terms

83.9.1 General Information

The Department of Mining, Metallurgical and Petroleum Engineering offers undergraduate (and graduate) programs in three broadly related, but distinctly different disciplines: Mining, Metallurgical and Petroleum Engineering. These programs are designed to prepare students for engineering careers in the mining, materials and energy industries, and their related industries.

For several years past, these programs shared a common second year. This is no longer true; students now select a major after their first year. However, students who want to change their major (within the Department's three disciplines) prior to the second term of the second year, will be allowed to do so.

Students in Mining Engineering study all phases of mining, including surface and underground mining methods, mine plant design, materials handling, blasting, ventilation, rock mechanics, mineral processing, mine economics, project management and entrepreneurship, and safety and loss management. The program emphasizes computer techniques as applied to mining, and includes a comprehensive mine design project in the final two terms. Mining students are encouraged to take business courses as electives, because emphasis is placed on mining as a business venture.

The Metallurgical Engineering curriculum provides a broad range of courses, from the processing of metallic and non-metallic minerals (including coal and oil sands) to the pyro, hydro and electrometallurgical treatment of metal-bearing ores and concentrates, to structure/properties/processing relationships in metallic and non-metallic materials. Students have the choice of specializing within the Metallurgical Engineering program, either in an extractive metallurgy/mineral processing option, or in a materials engineering option which emphasizes physical metallurgy, ceramics, polymers, composites and electronic materials.

The Department offers the only Petroleum Engineering BSc degree program in Canada. Petroleum students take courses which familiarize them with all aspects of the profession such as geology, drilling and completion, production operations, well logging, reservoir engineering, simulation of reservoir performance, oil and gas property evaluation, project management and entrepreneurship, and resource economics. An extensive design project in the eighth term applies many of these subjects. Students may further their understanding in particular areas of petroleum engineering by taking appropriate optional courses, such as heavy oil recovery, in the final two terms.

83.9.2 Required Courses

Metallurgical Engineering

In addition to the courses listed under §83.1.1 the following courses are required for a BSc in Metallurgical Engineering:

(1) CH E 324, 410, 412, 546; CHEM 271; CIV E 360; E E 301; GEOL 292; MEC E 413; MET E 352, 3[illegible] 432, 440, 457, 458, 530, 540, 541, 545, 548, 5[illegible] 552; MMP E 392, 490, 599; STAT 235.

(2) a. Further required courses for those taking t[illegible] Standard Program: MET E 431, 534, 542; MMP[illegible] 508.
b. Further required courses for the Materials O[illegible] tion: MET E 480, 553, 567 and a design electi[illegible]

(3) Credit in two additional courses from an approv[illegible] list of technical electives.

Mining Engineering

In addition to the courses listed under §83.1.1 t[illegible] following courses are required for a BSc in Min[illegible] Engineering:

(1) CH E 324, 412; CIV E 350, 351, 360; E E 3[illegible] ENGG 506; GEOL 292, 340; MEC E 413; MET[illegible] 352, 431; MIN E 395, 410, 423, 424, 430, 501, 5[illegible] 503, 507, 510, 513, 514, 528; MMP E 392, 4[illegible] 490, 508, 599; STAT 235.

(2) Credit in two additional courses must also be tak[illegible] from an approved list of technical or busine[illegible] electives.

(3) Mining students must take a total of six units from t[illegible] following list of courses: ENGG 502, Geology, and Surveying courses (CIV E 350 and CIV E 351).

Petroleum Engineering

In addition to the courses listed under §83.1.1 t[illegible] following courses are required for a BSc in Petrole[illegible] Engineering:

(1) CH E 324, 410, 412; CHEM 271; CIV E 360; EC[illegible] 204, 365; E E 301; GEOL 221, 292; MET E 3[illegible] MMP E 392, 422, 490, 597, 599; PET E 395, 4[illegible] 464, 466, 468, 564, 573, 575, 584, 588, 589, 5[illegible] STAT 235.

(2) Credit in two additional courses must also be t[illegible] tained from an approved list of technical electiv[illegible]

All programs in the Department of Mining, Metall[illegible] gical and Petroleum Engineering must be approved b[illegible] faculty adviser. Under some circumstances, stude[illegible] may be given approval to replace some of the requi[illegible] courses to allow further specialization in an area[illegible] particular interest.

An Engineering Management program is availa[illegible] to well-qualified students which may permit advan[illegible] credit toward an MBA program. Details of this prog[illegible] are available from the Department of Mining, Metallurg[illegible] and Petroleum Engineering.

The MIN E 528 and MET E 548 field trips [illegible] scheduled every second year. The next field trips wil[illegible] held in the fall of 1991. Students are required to pay[illegible] their food and lodging on the field trip and a levy of [illegible] is made for transportation expenses.

83.9.3 Metallurgical Engineering

Students selecting the materials option follo[illegible] separate program in terms 6, 7, and 8.

ird Term	hours	units
EM 271 (Chemical Thermodynamics)	3-0-3	4.5
301 (Elements of Electrical Engineering)	3-0-3/2	3.8
OL 292 (Basic Geology)	3-0-3	4.5
TH 200 (Linear Algebra and Infinite Series)	3-0-0	3.0
T E 352 (Materials Science II)	3-0-3/2	3.8
IP E 392 (Using Technology to Create Resource Enterprise)	3-0-0	3.0
	Total	22.6

Note: Co-op students only must register in ENGG 300 in Third Term, in addition to the above courses:

	hours	units
ENGG 300 (Orientation to Cooperative Education)	1-0-1	1.0

Note: Co-op students should refer to Table I in §82.5 for study/work term sequencing.

urth Term	hours	units
E 324 (Engineering Thermodynamics)	3-1s-0	3.5
/ E 360 (Mechanics of Deformable Bodies I)	3-0-3	4.5
TH 201 (Differential Equations I)	3-0-1	3.5
TH 209 (Calculus III)	3-0-1	3.5
C E 413 (Engineering Economy)	3-0-0	3.0
T E 356 (Materials Engineering II)	3-0-3/2	3.8
	Total	21.8

h Term	hours	units
E 412 (Fluid Mechanics)	3-1s-0	3.5
T E 440 (Metallurgical Thermodynamics and Kinetics)	3-0-0	3.0
T E 457 (Fundamentals of Physical Metallurgy I)	3-0-3	4.5
IP E 490 (Introduction to Process Simulations)	3-1s-0	3.5
AT 235 (Introductory Statistics for Engineering)	3-0-2	4.0
mplementary Studies Elective	3-0-0	3.0
	Total	21.5

th Term	hours	units
E 410 (Heat and Mass Transfer)	3-1s-0	3.5
T E 431 (Mineral Processing I)	3-0-3	4.5
T E 432 (Pyrometallurgy)	3-0-3/2	3.8
T E 458 (Fundamentals of Physical Metallurgy II)	3-0-3	4.5
T E 545 (Corrosion and Oxidation)	3-0-0	3.0
IP E 508 (Environmental Aspects of Resource Operations)	3-0-0	3.0
	Total	22.3

venth Term	hours	units
E 546 (Process Dynamics and Control)	3-0-3/2	3.8
T E 530 (Hydrometallurgy and Electrometallurgy)	3-0-3/2	3.8
T E 540 (Metallurgical Research Project I)	0-0-3	1.5
T E 548 (Metallurgical Field Trip)		0.0
T E 552 (Application of Physical Metallurgy I)	3-0-3/2	3.8
IP E 599 (Undergraduate Seminar)	1-0-0	1.0
hnical Elective	3-0-0	3.0
mplementary Studies Elective	3-0-0	3.0
	*Total	19.9

hth Term	hours	units
GG 500 (The Practice of the ineering Profession)	1-0-0	1.0
T E 534 (Metallurgical Process Analysis)	3-0-3/2	3.8
T E 541 (Metallurgical Research Project II)	0-0-6	3.0
T E 542 (Metallurgical Plant Design and Operation)	2-0-3	3.5
T E 549 (Metallurgical Seminar)	1-0-0	1.0
C 366 (People in Industry)	3-0-0	3.0
hnical Elective	3-0-0	3.0
	*Total	18.3

tal units are approximate depending on choice of ctives.

ommended Program for the Materials Option:

th Term	hours	units
E 410 (Heat & Mass Transfer)	3-1s-0	3.5
T E 432 (Pyrometallurgy)	3-0-3/2	3.8
T E 458 (Fundamentals of Physical Metallurgy II)	3-0-3	4.5
T E 480 (Ceramics)	3-0-0	3.0
T E 545 (Corrosion & Oxidation)	3-0-0	3.0
GG 502 (Project Management and ntrepreneurship)	3-0-0	3.0
nplementary Studies Elective	3-0-0	3.0
	Total	20.8

Seventh Term	hours	units
CH E 546 (Process Dynamics & Control)	3-0-3/2	3.8
MET E 530 (Hydrometallurgy & Electrometallurgy)	3-0-3/2	3.8
MET E 540 (Metallurgical Research Project I)	0-0-3	1.5
MET E 548 (Metallurgical Field Trip)	0.0	
MET E 552 (Applications of Physical Metallurgy I)	3-0-3/2	3.8
MET E 567 (Polymers and Fibre Reinforced Polymers)	3-1s-0	3.6
MMP E 599 (Undergraduate Seminar)	1-0-0	1.0
Technical Elective	3-0-0	3.0
	*Total	20.4

Eighth Term	hours	units
ENGG 500 (The Practice of the Engineering Profession)	1-0-0	1.0
MET E 541 (Metallurgical Research Project II)	0-0-6	3.0
MET E 549 (Metallurgical Seminar)	1-0-0	1.0
MET E 553 (Applications of Physical Metallurgy II)	3-0-3/2	3.8
SOC 366 (People in Industry)	3-0-0	3.0
Design Elective	3-0-3/2	3.8
Technical Elective	3-0-0	3.0
	*Total	18.6

*Total units are approximate depending on choice of electives.

83.9.4 Mining Engineering — Recommended Program

Third Term	hours	units
EE 301 (Elements of Electrical Engineering)	3-0-3/2	3.8
GEOL 292 (Basic Geology)	3-0-3	4.5
MATH 200 (Linear Algebra and Infinite Series)	3-0-0	3.0
MET E 352 (Materials Science II)	3-0-3/2	3.8
MMP E 392 (Using Technology to Create Resource Enterprises)	3-0-0	3.0
Complementary Studies Elective	3-0-0	3.0
	Total	21.1

Note: Co-op students only must register in ENGG 300 in the Third-Term, in addition to the above courses:

	hours	units
ENGG 300 (Orientation to Cooperative Education)	1-0-0	1.0

Note: Co-op students should refer to Table I in §82.5 for the study/work term sequencing. Please also refer to the Recommended Program for Co-op students immediately following this list.

Fourth Term	hours	units
CH E 324 (Engineering Thermodynamics)	3-1s-0	3.5
CIV E 360 (Mechanics of Deformable Bodies I)	3-0-3	4.5
MATH 201 (Differential Equations I)	3-0-1	3.5
MATH 209 (Calculus III)	3-0-1	3.5
MEC E 413 (Engineering Economy)	3-0-0	3.0
MIN E 395 (Introduction to Mining Engineering)	3-0-3/2	3.8
	Total	21.8

Fifth Term	hours	units
CH E 412 (Fluid Mechanics)	3-1s-0	3.5
MIN E 410 (Ore Reserve Estimation)	3-0-0	3.0
MIN E 423 (Rock Mechanics)	3-0-3	4.5
MMP E 490 (Introduction to Process Simulation)	3-1s-0	3.5
STAT 235 (Introductory Statistics for Engineering)	3-0-2	4.0
Complementary Studies Elective	3-0-0	3.0
	Total	21.5

Sixth Term	hours	units
CIV E 350 (Plane Surveying)**	2-0-2	3.0
CIV E 351 (Survey School)**	—	3.0
GEOL 340 (Petrology)	3-0-3	4.5
MET E 431 (Mineral Processing I)	3-0-3	4.5
MMP E 422 (Rock Structures and Intact Rock Properties)	3-1s-0	3.5
MIN E 424 (Blasting and Explosives)	2-0-0	2.0
MIN E 430 (Mine Transport and Materials Handling)	3-0-3/2	3.8
	Total	24.3

Seventh Term	hours	units
MIN E 501 (Mine Plant Engineering)	3-1s-0	3.5
MIN E 502 (Mine Design Project I)	0-0-3	1.5
MIN E 510 (Mining Enterprise Economics)	2-0-0	2.0
MIN E 513 (Surface Mining)	3-0-3/2	3.8
MIN E 514 (Underground Mining)	3-0-3/2	3.8
MIN E 528 (Mining Field Trip)		0.0
MMP E 599 (Undergraduate Seminar)	1-0-0	1.0
Technical Elective	3-0-0	3.0
	*Total	18.6

Eighth Term	hours	units
ENGG 500 (The Practice of the Engineering Profession)	1-0-0	1.0
ENGG 506 (Risk and Loss Management)	3-0-3/2	3.8
MIN E 503 (Mine Design Project II)	0-0-6	3.0
MIN E 507 (Principles of Mine Ventilation)	2-0-3/2	2.8
MMP E 508 (Environmental Aspects of Resource Operations)	3-0-0	3.0
SOC 366 (People in Industry)	3-0-0	3.0
Technical Elective	3-0-0	3.0
	*Total	19.6

Co-op Program

Fifth Term	hours	units
CIV E 350 (Plane Surveying)**	2-0-2	3.0
CIV E 351 (Survey School)**	—	3.0
GEOL 340 (Petrology)	3-0-3	4.5
MET E 431 (Mineral Processing I)	3-0-3	4.5
MIN E 424 (Blasting and Explosives)	2-0-0	2.0
MIN E 430 (Mine Transport and Materials Handling)	3-0-3/2	3.8
MMP E 422 (Rock Structures & Intact Rock Properties)	3-1s-0	3.5
	Total	24.3

Sixth Term	hours	units
CH E 412 (Fluid Mechanics)	3-1s-0	3.5
MIN E 410 (Ore Reserve Estimation)	3-0-0	3.0
MIN E 423 (Rock Mechanics)	3-0-3	4.5
MMP E 490 (Introduction to Process Simulation)	3-1s-0	3.5
STAT 235 (Introductory Statistics for Engineering)	3-0-2	4.0
Complementary Studies Elective)	3-0-0	3.0
	Total	21.5

*Total units are approximate depending on choice of electives.
**See Mining Engineering paragraph (3), §83.9.2.

83.9.5 Petroleum Engineering — Recommended Program

Third Term	hours	units
CHEM 271 (Chemical Thermodynamics)	3-0-3	4.5
E E 301 (Elements of Electrical Engineering)	3-0-3/2	3.8
GEOL 292 (Basic Geology)	3-0-3	4.5
MATH 200 (Linear Algebra and Infinite Series)	3-0-0	3.0
MET E 352 (Materials Science II)	3-0-3/2	3.8
MMP E 392 (Using Technology to Create Resource Enterprises)	3-0-0	3.0
	Total	22.6

Note: Co-op students only must register in ENGG 300 in the Third Term, in addition to the above courses:

	hour	units
ENGG 300 (Orientation to Cooperative Education)	1-0-0	1.0

Note: Co-op students should refer to Table I in §82.5 for the study/work term sequencing. Please also refer to the Recommended Program for Co-op Students immediately following this list.

Fourth Term	hours	units
CH E 324 (Engineering Thermodynamics)	3-1s-0	3.5
CIV E 360 (Mechanics of Deformable Bodies I)	3-0-3	4.5
ECON 204 (Principles of Economics)	3-0-0	3.0
MATH 201 (Differential Equations I)	3-0-1	3.5
MATH 209 (Calculus III)	3-0-1	3.5
PET E 395 (Introduction to Fundamental Petroleum Engineering)	3-0-3/2	3.8
	Total	21.8

Fifth Term	hours	units
CH E 412 (Fluid Mechanics)	3-1s-0	3.5
MMP E 490 (Introduction to Process Simulation)	3-1s-0	3.5
PET E 462 (Petroleum Reservoir Fluids)	3-0-3/2	3.8
PET E 464 (Drilling & Completion)	3-1s-0	3.5
PET E 564 (Well Logging and Formation Evaluation)	3-1s-0	3.5
STAT 235 (Introductory Statistics for Engineering)	3-0-2	4.0
	Total	21.8

Sixth Term	hours	units
CH E 410 (Heat and Mass Transfer)	3-1s-0	3.5
GEOL 221 (Sedimentation and Stratigraphy)	3-0-3	4.5

MMP E 422 (Rock Structures and Intact Rock Properties)	3-1s-0	3.5
PET E 466 (Petroleum Production Operations)	3-0-0	3.0
PET E 468 (Fundamentals of Well Test Analysis)	3-0-3/2	3.8
PET E 588 (Petroleum Field Trip)		0.0
Complementary Studies Elective	3-0-0	3.0
	Total	21.3

Seventh Term	hours	units
ECON 365 (Resource Economics)	3-0-0	3.0
MMP E 597 (Operations Research)	3-1s-0	3.5
MMP E 599 (Undergraduate Seminar)	1-0-0	1.0
PET E 573 (Fundamental Reservoir Engineering)	3-0-3/2	3.8
PET E 584 (Oil and Gas Property Evaluation)	2-0-3	3.5
Complementary Studies Elective	3-0-0	3.0
Technical Elective	3-0-0	3.0
	*Total	20.8

Eighth Term	hours	units
ENGG 500 (The Practice of the Engineering Profession)	1-0-0	1.0
PET E 575 (Applied Reservoir Engineering)	3-0-3/2	3.8
PET E 589 (Petroleum Seminar)	3-0-0	3.0
PET E 596 (Petroleum Engineering Design Project)	1-0-0	1.0
SOC 366 (People in Industry)	1-6s-0	4.0
Technical Elective	3-0-0	3.0
	3-0-0	3.0
	*Total	18.8

Co-op Program

Fifth Term	hours	units
CH E 410 (Heat and Mass Transfer)	3-1s-0	3.5
GEOL 221 (Sedimentation and Stratigraphy)	3-0-3	4.5
MMP E 422 (Rock Structures and Intact Rock Properties)	3-1s-0	3.5
PET E 466 (Petroleum Production Operations)	3-0-0	3.0
PET E 468 (Fundamentals of Well Test Analysis)	3-0-3/2	3.8
PET E 588 (Petroleum Field Trip)		0.0
Complementary Studies Elective	3-0-0	3.0
	Total	21.3

Sixth Term	hours	units
CH E 412 (Fluid Mechanics)	3-1s-0	3.5
MMP E 490 (Introduction to Process Simulation)	3-1s-0	3.5
PET E 462 (Petroleum Reservoir Fluids)	3-0-3/2	3.8
PET E 464 (Drilling and Completion)	3-1s-0	3.5
PET E 564 (Well Logging and Formation Evaluation)	3-1s-0	3.5
STAT 235 (Introductory Statistics for Engineering)	3-0-2	4.0
	Total	21.8

*Total units are approximate depending on choice of electives.

83.9.6 Mineral Process Engineering — Recommended Program

Students currently designated as Mineral Process Engineering majors (EN 36) and their adviser should refer to the program set forth in the 1989-90 Calendar.

83.9.7 Elective Courses

Elective courses for all programs in the Department of Mining, Metallurgical and Petroleum Engineering may be chosen from those offered by the Department, the Faculty of Engineering, or by the Faculties of Arts, Science, and Business. Departmental approval is required for all elective courses.

83.10 BSc Program in Agricultural Engineering

A four-year program in Agricultural Engineering is offered jointly by the Faculty of Agriculture and Forestry and the Faculty of Engineering. Agricultural Engineering students are also eligible to enter the five-year Co-operative Education program detailed in §82.5. The Agricultural Engineering program is administered by a Joint Agricultural Engineering Curriculum Committee consisting of the Deans of the Faculty of Agriculture and Forestry and the Faculty of Engineering (or their representatives); the Agricultural Engineering Program Coordinator; the Chair, Department of Agricultural Engineering; or another member of the Department if the Chair is also Coordinator; and two full-time academic members selected by and from the Faculty of Engineering.

For administrative purposes students in the program will be registered in the Faculty of Agriculture and Forestry.

(1) **Admission:** The matriculation requirements are set out in §13.4.1 of this Calendar.

(2) **Promotion:** Promotion from year to year will be decided by the Joint Committee but in general the requirements for promotion will be the same as those of the Faculty of Engineering.

(3) **Graduation:** The Joint Committee will recommend approval of the candidate for the degree to the Councils of the Faculty of Agriculture and Forestry and the Faculty of Engineering.

(4) **Scholarships:** Details of scholarships for which students in the program are eligible are listed under the Faculty of Agriculture and Forestry and Faculty of Engineering Awards section of the Calendar.

All inquiries should be directed to the Dean of the Faculty of Agriculture and Forestry (telephone 492-4931) or the Chair of the Department of Agricultural Engineering (telephone 492-4251).

83.10.1 General Information

Agricultural Engineering applies engineering principles to the industry of agriculture. It involves engineering design of machinery, structures and environmental systems for plant and animal production, use of energy sources, processing systems for agricultural products and applications of engineering to the use of soil, water and other natural resources.

The program of studies in Agricultural Engineering provides a background for careers in design, development, manufacture, testing and research in industries related to agricultural production.

The core curriculum contains basic sciences and mathematics as well as introductory engineering and agricultural courses.

The selection of technical electives allows students to obtain additional depth in Agricultural Engineering and/or related areas.

The next AG EN 500 field trip will be in September 1990.

83.10.2 Required Courses

In addition to the courses listed under §83.1.1 the following courses are required for a BSc in Agricultural Engineering:

(1) AG EN 301, 313, 413, 421, 430, 453, 454, 500, 503, 510; CH E 324; CIV E 350, 351, 360, 480; E E 354, 405; FD SC 588; MEC E 350, 413, 431; SOILS 310.

(2) credit in an approved Biological Science course; credit in an approved Animal Science course; credit in an approved Plant Science course; credit in STAT 235 or equivalent; credit in ENGG 420 or LEG R 301.

(3) credit in a minimum of 9 units of approved technical electives.

All programs must be approved by the Program Coordinator.

83.10.3 Recommended Program

First term - Detailed in §83.2

Second term - Detailed in §83.2

Third Term	hours	units
AG EN 313 (Soil and Water Engineering)	3-0-2	4.0
CH E 324 (Engineering Thermodynamics)	3-1s-0	3.5
MATH 200 (Linear Algebra and Infinite Series)	3-0-0	3.0
MEC E 413 (Engineering Economy)	3-0-0	3.0
SOILS 310 (Introduction to Soil Science)	3-0-3	4.5
Biological Science Elective (e.g., BOT 199)	3-0-3	4.5
	Total	*22.5

Note: Co-op students only must register in ENGG 300 in the Third Term, in addition to the above courses:

	hours	units
ENGG 300 (Orientation to Cooperative Education)	1-0-0	1.0

Note: Co-op students should refer to Table I in §82.5 for the study/work term sequencing. Please also refer to the Recommended Program for Co-op students immediately following this list.

Fourth Term	hours	uni
CIV E 350 (Plane Surveying)	2-0-2	3
CIV E 351 (Survey School)		3
CIV E 360 (Mechanics of Deformable Bodies)	3-0-3	4
MATH 201 (Differential Equations I)	3-0-1	3
MATH 209 (Calculus III)	3-0-1	3
MEC E 350 (Engineering Mechanics III)	3-0-1	3
Statistics Elective (e.g. STAT 235)	3-0-2	4
	Total	*25

Fifth Term	hours	uni
AG EN 301 (Environmental Control of Agricultural Buildings)	3-0-3	4
AG EN 500 (Agricultural Engineering Field Trip)	—	
CIV E 480 (Soil Mechanics)	3-0-3	4
MEC E 431 (Fluid Mechanics)	3-0-1	3
SOC 366 (People in Industry)	3-0-0	3
Elective (e.g., Complementary Studies)	3-0-0	3
Elective (e.g., Technical)	3-0-0	3
	Total	*21

Sixth Term	hours	un
AG EN 421 (Simulation Methods in Agricultural Engineering)	3-0-3	4
AG EN 430 (Structural Design of Agricultural Buildings)	3-0-3	4
E E 354 (Fundamentals of Electrical Engineering)	3-0-3/2	3
Elective (e.g., Plant Science)	3-0-0	3
Elective (e.g., Complementary Studies)	3-0-0	3
Elective (e.g., Technical)	3-0-0	3
	Total	*2

Seventh Term	hours	un
AG EN 453 (Power Units)	3-0-3	4
AG EN 510 (Agricultural Engineering Project)	1-0-4	3
E E 405 (Fundamentals of Electrical Engineering)	3-0-3/2	3
FD SC 588 (Heat and Mass Transfer in Food Engineering)	3-0-1	3
Elective (e.g., Animal Science)	3-0-0	3
	Total	*1

Eighth Term	hours	ur
AG EN 413 (Irrigation and Drainage Engineering)	3-0-3	4
AG EN 454 (Agricultural Machinery)	3-0-3	4
AG EN 503 (Instrumentation in Agricultural Engineering)	3-0-3	4
ENGG 500 (The Practice of the Engineering Profession)	1-0-0	
ENGG 420 (Engineering Law) or LEG R 301 (Legal Foundations for the Canadian Economy)	3-0-0	3
Elective (e.g., Technical)	3-0-0	3
	Total	*2

Co-op Program

Fifth Term	hours	ur
AG EN 421 (Simulation Methods in Agricultural Engineering	3-0-3	4
AG EN 430 (Structural Design of Agricultural Buildings)	3-0-3	4
E E 354 (Fundamentals of Electrical Engineering)	3-0-3/2	3
Elective (e.g., Complementary Studies)	3-0-0	3
Elective (e.g., Plant Science)	3-0-0	3
Elective (e.g., Technical)	3-0-0	3
	Total	2

Sixth Term	hours	ur
AG EN 301 (Environmental Control of Agricultural Buildings)	3-0-3	4
AG EN 500 (Agricultural Engineering Field Trip)		
CIV E 480 (Soil Mechanics)	3-0-3	4
MEC E 431 (Fluid Mechanics)	3-0-1	3
SOC 366 (People in Industry)	3-0-0	3
Elective (e.g., Complementary Studies)	3-0-0	3
Elective (e.g., Technical)	3-0-0	3
	Total	2

*Total units are approximate depending on choice electives.

83.10.4 Elective Courses

Electives in the Agricultural Engineering Prog may be chosen from courses offered by the Faculti Agriculture and Forestry, Arts, Business, Engineerin Science.

Typical technical elective courses are: AG EN 456, 552; CIV E 320, 431, 441, 520, 590; CHEM 236, 413; CH E 476, 490, 540, 546; CMPUT

E 379, 479, 569; FD SC 351, 453, 454, 587; MATH
0; MEC E 361, 461, 462, 482, 555, 565; MET E 351,
2; MICRB 193; SOILS 360, 425, 440, 470.

Students will consult with their faculty advisers for
ssistance in choosing technical and complementary
udies electives. All electives must be approved by the
ogram Coordinator.

3.11 Graduate Studies

The University of Alberta offers the degrees of
aster of Engineering, Master of Science, and Doctor of
hilosophy in many fields of Engineering. Details of
ese programs and courses are given in the Faculty of
aduate Studies and Research section of this Calen-
r.

4 Details of Courses

4.1 General Information

Courses offered by the Faculty of Engineering are
ted here in alphabetical order; courses open to Engi-
ering students but offered by other faculties are listed
parately in §84.10. Agricultural Engineering courses
e listed in §84.9.

Each course is designated by its computer abbre-
iation and a number.

"□" - This symbol stands for "course units". The
mber following indicates the units of the course as
ed in computing grade-point averages. The number of
its is based on the number of hours of lectures,
minars, and laboratories.

The next three figures, enclosed in parentheses,
dicate the hours of instruction required by the course
a week. The format is as follows: the first position
dicates lecture hours; the second position indicates
minar hour (s), demonstration (d), clinic (c), or lecture-
) (L); and the third position indicates laboratory hours.
e expression "3/2" means three hours of instruction
ery second week. The hours of instruction for a full-
ssion course are the same in both terms unless
herwise indicated. If the course is a single term
urse, the term in which it may be offered is mentioned
fore the hours of instruction. The ★ symbol stands for
nits of course weight". The number following indicates
weight of the course as used in computing grade-
int averages for students who are registered in a
culty other than Engineering.

Prerequisite requirements have usually been listed,
t confirmation of whether or not a course has a
erequisite must be obtained from the Department.

**The appearance of a course description in the
llowing list does not constitute any guarantee that
e course will actually be offered in the forthcoming
ssion. Information as to which courses will be
ered, the names of the instructors, and all further
tails must be sought from the department con-
rned.**

ysical Requirements for University

The University has a commitment to the education
all academically qualified students and special serv-
s are frequently provided on campus to assist disa-
d students.

Nevertheless, some courses make certain unavoid-
e demands on students, with respect to the posses-
n of a certain level of physical skill or ability, if the
ademic objectives of the course are to be realized. In
se of doubt, students are advised to contact the
partment concerned and the Disabled Student Serv-
s Coordinator, Office of the Dean of Student Serv-
s.

Since support services cannot be guaranteed for all
-campus courses, instructors may be obliged to refuse
istration in such courses.

4.2 Chemical Engineering

E 324 Engineering Thermodynamics
.5 (either term,3-1s-0). An introduction to the first and
ond laws of thermodynamics. Prerequisite: MATH
. (★3)

E 356 Process Analysis
.0 (second term,3-0-2). Basic process principles;
terial and energy balances, transient processes, in-
duction to computer aided balance calculations. Pre-
uisite: ENCMP 100. Corequisite: CH E 324, and
TH 209 or equivalent. (★3)

CH E 378 Statistical Applications in Chemical Engineering
□2.5 (second term,2-1s-0). Statistical methods for the analysis of problems in the field of engineering. Prerequisite: MATH 101. Prerequisite or corequisite: ENCMP 100. (★2)

CH E 385 Industrial Tours I
□0.0 (second term,0). Guided visits to selected industrial plants, laboratories and field installations. Corequisite: CH E 356. (★0)

CH E 410 Heat and Mass Transfer
□3.5 (second term,3-1s-0). Steady and unsteady conduction; convection; thermal radiation; leaching; extraction; absorption; distillation. Prerequisite: CH E 412. (★3)

CH E 412 Fluid Mechanics
□3.5 (first term,3-1s-0). Newtonian and non-Newtonian fluid behaviour; hydrostatics; buoyancy; application of Bernoulli and momentum equations; frictional losses through pipes, ducts and fittings; pipe networks; pumps; compressible flow in pipes; drag on submerged bodies and flow through porous medium. Prerequisite: CH E 324, MATH 201 and 209. (★3)

CH E 414 Heat Transfer
□3.5 (either term,3-1s-0). Principles of conduction, convection and radiation heat transfer. Design and performance analysis of thermal systems based on these principles. Prerequisite: CH E 412. (★3)

CH E 416 Equilibrium Stage Processes
□4.0 (either term,3-0-2). Design of separation processes with emphasis on the equilibrium stage concept, distillation, absorption and extraction. Prerequisite: CH E 356 and 424. (★3)

CH E 424 Chemical Engineering Thermodynamics
□3.5 (first term,3-1s-0). The thermodynamics of non-ideal gases and liquids; vapor-liquid equilibrium, thermodynamics of chemical processes and multicomponent systems. Prerequisite: CH E 324 and MATH 201 or equivalent. (★3)

CH E 451 Chemical Engineering Laboratory I
□3.0 (first term,1-0-4). Experiments in fluid mechanics and thermodynamics. Corequisite: CH E 412 and 424. (★3)

CH E 456 Chemical Engineering Design I
□3.5 (either term,2-0-3). Engineering design concepts; cost estimation; engineering economics; project planning and scheduling; selected project design examples. Prerequisite: CH E 356 and 424, MATH 200 and 209 or equivalent. Prerequisite or corequisite: CH E 414 and 416. (★3)

CH E 476 Mathematical Applications
□3.5 (either term,3-1s-0). Mathematical formulation of engineering problems; solution of the resulting equations. Prerequisite: MATH 200, 201 and 209. (★3)

CH E 485 Industrial Tours — II
□0.0 (first term,0). Guided visits to selected industrial plants, laboratories and field installations. Prerequisite: CH E 385. (★0)

CH E 490 Introduction to Biochemical Engineering
□3.5. (second term,3-0-1). Physical and chemical properties of cells, tissues, and biological fluids; engineering analysis of processes such as cell growth and fermentation; purification of products. Prerequisite: CH E 356 or MICRB 293. (★3)

CH E 502 Process Design for Pollution Control
□3.5 (first term,3-1s-0). A course designed to deal with special processes, design techniques and operating procedures related to environmental and ecological considerations. Emphasis is placed on the fundamentals of air pollution and its control. Prerequisite: Consent of instructor. (★3)

CH E 518 Diffusion Operations
□3.0 (either term,2-0-2). Molecular and turbulent diffusion; mass transfer coefficients; mass transfer equipment design including absorption and cooling towers, adsorption and ion exchange. Prerequisite: CH E 414. (★3)

CH E 520 Energy Resource Development
□3.0 (first term,3-0-0). A broad technological and economic assessment of energy resource development projects in Western Canada. Medium and long term scientific and technological perspectives. Future supply-demand scenarios analyzed by large scale energy models such as AERAM and PILOT. Implications of policy decisions in the areas of taxation, financing arrangements, export-import restrictions and energy pricing regulations. Prerequisite: Consent of instructor. (★3)

CH E 522 Hydrocarbon Fluid Properties and Processing
□3.5 (first term,3-1s-0). An introduction to the physical, chemical and engineering principles required for the design and operation of plants used for the treatment of natural gas, heavy oils and bitumens. Prerequisite or corequisite: CH E 424. (★3)

CH E 534 Chemical Reactor Analysis
□3.5 (either term,3-1s-0). Kinetics of chemical reactions; design of chemical reactors. Prerequisite: CH E 414, 424, and CHEM 271. (★3)

CH E 536 Chemical Kinetics and Catalysis
□3.5 (first term,3-1s-0). Characterization of heterogeneous catalysts; mechanisms and kinetics of heterogeneously catalyzed reactions. Prerequisite: CH E 534 or consent of instructor. (★3)

CH E 538 Polymer Reactor Engineering
□3.5 (second term,3-1s-0). Introduction to chain and step polymerization kinetics; physical, chemical and mechanical characterization methods for polymers; bulk, suspension, solution and emulsion polymerization processes; copolymers; polymerization reactor design and control. Prerequisite: CH E 534 or consent of instructor. (★3)

CH E 540 Introduction to Real-Time Computer Applications
□3.8 (first term,3-0-3/2). Introduction to real-time computer hardware and operating systems; data acquisition techniques; supervisory and direct digital control; industrial and laboratory applications. Laboratory will involve student use of Department's real-time digital computer and interfaced applications. Prerequisite: ENCMP 100 or equivalent. (★3)

CH E 546 Process Dynamics and Control
□3.8 (either term,3-0-3/2). Introduction to process modelling and transient response analysis; design and analysis of feedback systems; stability analysis; process control applications; data acquisition and process control using digital computers. Prerequisite: CH E 412 or equivalent, MATH 201 or equivalent, MATH 209. Prerequisite or corequisite: CH E 414 or equivalent. (★3)

CH E 548 Computer Applications in Process Control
□3.8 (second term,3-0-3/2). Block diagrams; transfer functions of systems of interest to process engineers; system simulation; frequency response; time and frequency domain control system design techniques; control system design by computer; computer control. Prerequisite: MATH 201 and 209. (★3)

CH E 553 Chemical Engineering Laboratory II
□3.0 (either term,1-0-4). Experiments in fluid mechanics, heat transfer and thermodynamics. Prerequisite: CH E 414, 424 and 451. (★3)

CH E 554 Chemical Engineering Laboratory III
□3.0 (either term,1-0-4). Experiments in kinetics and mass transfer. Prerequisite: CH E 416, 518, and 534. (★3)

CH E 555 Process Optimization
□3.5 (second term,3-1s-0). Single and multivariable search techniques; linear programming; dynamic programming; EVOP; nonlinear programming. Prerequisite: CH E 414 and MATH 201 or consent of instructor. (★3)

CH E 556 Chemical Engineering Design II
□4.0 (second term,1-0-6). Integration of chemical engineering practice, theory and economics into the design and evaluation of proposed capital projects. Prerequisite: CH E 416, 456 and 534. (★3)

CH E 558 Chemical Engineering Laboratory IV
□3.0 (either term,1-0-4). Projects in Chemical Engineering. Prerequisite: Consent of Department. (★3)

CH E 560 Man and His Environment
□3.5 (second term,3-1s-0). The massive environmental problems of over-population, pollution and scarcity of non-renewable resources will be considered quantitatively and from a systems point of view. Topics include: demographic analysis; energy, mineral, water and agricultural resources; environmental degradation; structure of urban communities; concepts of an ecosystem; computer models of complex systems. Course is interdisciplinary, with lecturers from several University Departments. Restricted to students registered in the 6th to 8th terms. (★3)

CH E 562 Process Modelling and Simulation
□3.8 (second term,3-0-3/2). Modelling of process systems; digital simulation; numerical solutions. Prerequisite: CH E 414 and 546 or equivalent. Prerequisite or corequisite: CH E 534. (★3)

CH E 564 Process Control
□3.8 (second term,3-0-3/2). Computer process control techniques; discrete-time response of dynamic systems; sampling of continuous signals; Z-transform representation; design of digital feedback controllers; linear and nonlinear system analysis. Prerequisite: CH E 546 or equivalent. (★3)

CH E 576 Computational Methods in Chemical Engineering
□3.5 (either term,3-1s-0). Mathematical formulation of chemical engineering problems; solution of systems of linear and nonlinear algebraic equations; numerical interpolation, differentiation and integration; numerical solution of ordinary and partial differential equations. Prerequisite: CH E 356, ENCMP 100 or equivalent, MATH 200, 201 and 209. (★3)

CH E 581 Colloquium I
□0.5 (first term,0-1s-0). Oral presentations. Prerequisite: CH E 456. (★1)

CH E 583 Colloquium II
□0.5 (second term,0-1s-0). Oral presentation of technical material. Prerequisite: CH E 581. (★1)

84.3 Civil Engineering

CIV E 305 Civil Engineering Analysis I
□2.5 (second term,2-0-2/2). Statistical and probabilistic approaches to civil engineering problems. Prerequisite: ENCMP 100, MATH 101. (★3)

CIV E 320 Environmental Engineering I
□3.8 (second term,3-0-3/2). Basic factors in environmental health, environmental chemistry and microbiology, water quality objectives and standards, water treatment flowsheets, water requirements, water sources, wastewater characteristics and treatment flow sheets, receiving water quality, solid waste management, air quality and noise control. Prerequisite: CHEM 103. (★3)

CIV E 350 Plane Surveying
□3.0 (second term,2-0-2). Surveying instruments, measurement and measurement errors, field surveying, electronic distance measurements, computations. (★3)

CIV E 351 Survey School
□3.0 (second term, two weeks at end of second term). Practical exercises in field methods; project type of assignments; field astronomy; electronic distance measuring instruments. Note: Survey School is held off campus. Prerequisite: CIV E 350. (★3)

CIV E 360 Mechanics of Deformable Bodies I
□4.5 (either term,3-0-3). Plane stress and strain; stress-strain relationships; stresses and deformations resulting from axial and transverse loads; buckling of columns; torsion of circular sections; combined stress; statically indeterminate problems. Laboratory to demonstrate mechanical properties and verify assumptions of analysis. Prerequisite: ENGG 231 and MATH 101. (★3)

CIV E 361 Introduction to Continuum Mechanics
□3.5 (second term,3-1s-0). Stress, strain and displacements in two and three dimensions. Constitutive equations. Governing equations of elasticity and simple solutions. Strain energy and virtual work. Theories of failure. Prerequisite: CIV E 360 and MATH 209. (★3)

CIV E 401 Civil Engineering Materials
□4.5 (either term,3-0-3). Soil classification, granular materials. Properties of Portland cement concrete related to micro- and macro-structure and constituent materials. Properties of bituminous materials and design of bituminous mixes. Prerequisite: MET E 352. (★3)

CIV E 402 Construction Materials and Methods
□4.5 (first term,3-0-3). Introduction to the elements and methods of building construction. Foundations, structural framing, floor and roof systems, wall assemblies, utilities and finishes. Influence of materials. (Field trips and incidental fee required.) Prerequisite: Consent of Department (★3)

CIV E 403 Construction Planning, Scheduling and Control
□4.5 (second term,3-0-3). Planning and scheduling of construction projects. Computer applications to construction scheduling. Applications of scheduling to cost control and resource leveling. Prerequisite: Consent of Department. (★3)

CIV E 404 Civil Engineering Analysis II
□2.5 (either term,2-0-2/2). The formulation of partial differential equations modelling civil engineering problems and an introduction to classical solution techniques. Prerequisite: MATH 201 and CIV E 361. (★3)

CIV E 406 Civil Engineering Analysis III
□4.0 (second term,3-0-2). Application of numerical methods to civil engineering problems. Prerequisite: ENCMP 100, MATH 200 and 209. Corequisite: CIV E 404. (★3)

CIV E 409 Project Management
□3.8 (first term,3-0-3/2). Planning and scheduling; theories and techniques of project management. (★3)

CIV E 410 Transportation Engineering
□3.8 (either term,3-0-3/2). Transportation systems and their elements. Principles of transportation planning. Traffic flow, safety capacity, controls. Vehicular motion and geometric design. Cost/benefit analysis in transportation. Earthwork and pavement design and construction. Principles of transportation systems management. Prerequisite: CIV E 401. Corequisite: CIV E 480. (★3)

CIV E 430 Introduction to Fluid Mechanics
□3.8 (either term,3-0-3/2). Fluid properties; dimensional analysis; hydrostatics; fundamental equations of fluid motion; laminar, turbulent and inviscid flows; boundary layers and flow around immersed bodies; elementary building aerodynamics. Prerequisite: MEC E 350, CIV E 361 or consent of instructor. (★3)

CIV E 431 Hydraulics
□4.5 (either term,3-0-3). Control volume analysis; pumps and turbines; pipe systems, channel systems; similitude and models; introduction to unsteady flow in conduits. Prerequisite: CIV E 430. (★3)

CIV E 441 Hydrology
□3.8 (first term,3-0-3/2). Water occurrence in nature and its relation to civil engineering, analysis of precipitation and stream flow data, precipitation-runoff relationships, groundwater, river behaviour. (★3)

CIV E 451 Elementary Photogrammetry
□4.5 (first term,3-0-3). Optics, basics of photogrammetry, cameras, photographic measurements, calibration of camera, scales, coordinates, stereoscopy and parallax, ground control, flight planning, targeting, orientation, plotters, mosaics, orthophotography, aerial triangulation collinearity and coplanarity equations, terrestial and close-range photogrammetry, remote sensing. Note: CIV E 451 will be offered in alternate years with CIV E 452. Prerequisite: CIV E 350. (★3)

CIV E 452 Field Astronomy
□4.5 (first term,3-0-3). Fundamental principles of field astronomy, celestial sphere, coordinate systems, spherical trigonometry, time, ephemerides, observation for time, azimuth, longitude and latitude, accuracy considerations, geodetic techniques. Note: CIV E 452 will be offered in alternate years with CIV E 451. Prerequisite: CIV E 350, CIV E 351. (★3)

CIV E 460 Structural Analysis I
□3.5 (either term,3-1s-0). Deformations of statically determinate beams, trusses and frames; influence lines; analysis of statically indeterminate structures by consistent deformations, slope deflection and moment distribution. Prerequisite: CIV E 360. (★3)

CIV E 471 Structural Design I
□2.8 (second term,2-0-3/2). Introduction to structural design; loads; design of timber beams, columns, connections and curved members. Prerequisite: CIV E 360. (★3)

CIV E 480 Soil Mechanics
□4.5 (either term,3-0-3). Site investigation; principle of effective stress; theories of steady seepage and consolidation; compaction of soils; frost action; mechanical properties of soils. Prerequisite: GEOL 290 and CIV E 401, 404 and 430. Corequisite: CIV E 406. (★3)

CIV E 500 Civil Engineering Report Writing
□2.0 (second term,1-2s-0). Written and oral communication; lectures and practice on presentation of oral and written reports. A comprehensive written report must be submitted by each student. Prerequisite: Consent of Department. (★3)

CIV E 502 Impact of Engineering Projects
□3.5 (first term,3-2s/2-0). The needs and regulations concerning environmental impact assessment are presented. Methods of analysis, parameter considerations, decision criteria, project evaluation and modification criteria, and impact of past projects. Prerequisite: CIV E 320 or consent of Department. (★3)

CIV E 503 Civil Engineering Applications of Operations Research
□3.0 (second term,2-0-2). Introduction to basic concepts of systems analysis, operations research and decision-making as applied to civil engineering problems. Prerequisite: CIV E 305. (★3)

CIV E 506 Construction Estimating and Cost Control
□4.5 (second term,3-0-3). Introduction to elements of construction and cost estimating. Familiarization with quantity take-off, labour and equipment production rates, unit costs, extension of costs, overhead, profit, and preparation of estimates for construction projects. Prerequisite: Consent of Department. (★3)

CIV E 507 Construction Contract Documents
□3.8 (first term,3-0-3/2). Introduction to elements of contract documents. Definition, interpretation, and applications of drawings, specifications, type of contracts, bidding documents, general and special conditions, and associated contract documents. Prerequisite: Consent of Department. (★3)

CIV E 511 Transportation Operations and Planning
□3.8 (first term,3-0-3/2). Transportation modes and missions. Principles of traffic flow theory. Human factors in transportation. Traffic surveys. Intersection control, railway controls. Transportation planning techniques and models. Prerequisite: CIV E 410 (★3)

CIV E 512 Town Planning
□3.5 (second term,3-1s-0). Historical growth and development of cities; growth and decay; population forecasting; urban land use and land planning; transportation planning; public services; planning legislation; outline plan preparation. Prerequisite: CIV E 520 or consent of Department. (★3)

CIV E 520 Environmental Engineering II
□3.8 (first term,3-0-3/2). Distribution and collection system hydraulics, water distribution system design, wastewater collection system design, water treatment plant design, wastewater treatment plant design. Prerequisite: CIV E 320 and 431. (★3)

CIV E 521 Municipal Engineering
□4.5 (second term,3-0-3). General effects of wastes on the environment, solid waste management, design of storm water management systems, subdivision regulation, and major design projects; laboratory tests on water and wastewater; field trip. Prerequisite: CIV E 520 or consent of Department. (★3)

CIV E 531 Environmental Fluid Mechanics
□4.0 (second term,3-0-2). Turbulent flow; equations of motion and pollutant conservation equation; slender flows, jets and plumes. Mixing processes in rivers and lakes. Hydraulics of hot water and effluent discharges into water bodies. Oil spills in rivers and ocean. Prerequisite: CIV E 431. (★3)

CIV E 540 Hydraulic Engineering
□4.5 (first term,3-0-3). A selection from open channel flow; culverts, spillways, energy dissipations; river hydraulics; river regime; elementary river engineering models; pump, turbine and pipelines; surge tanks; water hammer. Prerequisite: CIV E 431. (★3)

CIV E 550 Hydrographic Surveying
□4.5 (first term,3-0-3). Legal survey principles and requirements offshore; basics of hydrographic surveying; electromagnetic wave propagation; effect of the measuring medium on different frequencies; refraction modelling; acoustics, echo sounding; tides and water levels; horizontal positioning systems, techniques and accuracy estimation; major positioning systems used offshore; error sources and error propagation; calibration of positioning systems. Satellite positioning, field procedures and planning. Prerequisite: MEC E 350, MATH 200, CIV E 350 or consent of instructor. Note: CIV E 550 and CIV E 551 will be offered in alternate years with CIV E 552 and CIV E 553. (★3)

CIV E 551 Geodesy
□4.5 (second term,3-0-3). Basic concepts of geodesy. The earth's gravity field and its representation. Gravity measurements, reductions and anomalies. Normal gravity, the geoid and natural coordinates. Precise levelling and height systems. Determining size and shape of the earth. Cartesian and ellipsoidal coordinate systems and transformation between. Datum definition and transformation between different datums. Geometry of the ellipsoid, radii of curvature, curves on the ellipsoid, direct and inverse geodetic problems. Reduction of observed quantities to the ellipsoid and Laplace's equation. Three dimensional direct and inverse geodetic problems. Satellite orbit system and relation to geocentric earth-fixed system. Prerequisite: MATH 200, CIV E 305, CIV E 550 or consent of instructor. (★3)

CIV E 552 Survey Adjustments and Data Analysis
□4.5 (first term,3-0-3). Review of basic concepts of matrix algebra and statistics. Error propogation and estimation of observational accuracy. Variance-covariance matrices. Principle of Least Squares, adjustments, curve fitting and prediction. Adjustment of horizontal and vertical survey networks by least squares utilizing observation and condition equations or combinations thereof. Mathematical model considerations, accuracy estimation and statistical testing. Prerequisite: CIV E 305, CIV E 551 or consent of instructor. Note: CIV E 550 and CIV E 551 will be offered in alternate years with CIV E 552 and CIV E 553. (★3)

CIV E 553 Surveying: Advanced Topics
□4.5 (second term,3-0-3). Conformal map projection with emphasis on transverse mercator projection. Required corrections to survey observations for computation on map projections. Analytical photogrammetry, numerical orientation, block adjustments. Space positioning techniques and observational procedures; doppler, inertial and radio interferometric methods with appropriate mathematical modelling considerations for adjustment. Adjustment of geodetic networks with two or three dimensional modelling. Combination of survey networks from different datums. Sequential least squares methods, least squares collocation, Kalman filtering. Prerequistes: CIV E 552 or consent of instructor. (★3)

CIV E 560 Structural Analysis II
□4.0 (first term,3-2s-0). Analysis of statically indeterminate beams, frames, and trusses; matrix formulation and computer solutions. Prerequisite: CIV E 460. (★3)

CIV E 570 Structural Design II
□4.5 (first term,3-0-3). Limit states design of steel structures, including tension members, columns, beams, beam-columns, composite beams, and connections. Prerequisite: CIV E 471. (★3)

CIV E 571 Structural Design IV
□4.5 (second term,3-0-3). Design of steel plate girders; design of prestressed concrete structures; design

masonry and reinforced masonry structural components. Two major design projects constitute the laboratory portion. Prerequisite: CIV E 570 and 572. (★3)

CIV E 572 Structural Design III
□4.5 (first term,3-0-3). Ultimate strength design of reinforced concrete beams, columns, footings and slabs. Prerequisite: CIV E 471. (★3)

CIV E 590 Soil Engineering
□4.5 (first term,3-0-3). Stability of natural slopes, cuts, and embankments; theories of earth pressure; design of temporary excavations and earth retaining structures; settlements of foundations; bearing capacity of foundations; pile foundations. Prerequisite: CIV E 480. (★3)

CIV E 591 Geotechnical Design
□4.5 (second term,3-0-3). Evaluation of site conditions. Design and analysis of shallow and deep foundations and retaining structures. Slope stability of embankments and cuts including foundation excavations. Prerequisite: CIV E 590. (★3)

CIV E 598 Special Topics in Civil Engineering I
□3.0 (either term,3-0-0). (★3)

CIV E 599 Special Topics in Civil Engineering II
□4.0 (either term,3-0-2). (★3)

84.4 Computer Engineering

CMPE 413 Software Engineering
□4.5 (second term,3-0-3). The software crisis. The software lifecycle and the design process. Properties of quality software. Requirements analysis and software specification techniques. Software design techniques including data flow and data structure methods. Implementation and quality assurance techniques. Features of programming languages and programming environments which support good software engineering practice. Software project management. Prerequisite: CMPUT 204. (★3)

CMPE 482 Computer Organization and Architecture
□3.0 (second term,3-0-0). Survey of the organization of various micro, mini- and mainframe computers. Design of the CPU control unit. Memory organization including virtual and cache memories. Parallelism in computers. Prerequisite: E E 479. (★3)

CMPE 501 Computer Interfacing
□3.8 (first term,3-0-3/2). The design and use of digital interfaces, including memory, serial, parallel, synchronous and asynchronous interfaces. Hardware implementations of interrupts, busses, input/output devices. Prerequisite: E E 471, 479, 535; and E E 416 or 417. (★3)

CMPE 598 Special Topics in Computer Engineering
□3.0 (first term,3-0-0). This course is intended to enable individuals or a small group of students to study topics in their particular field of interest under the supervision of a member of the Department of Electrical Engineering or the Department of Computing Science or other appropriate departments. (★3)

CMPE 599 Special Topics in Computer Engineering
□3.0 (second term,3-0-0). This course is intended to enable individuals or a small group of students to study topics in their particular field of interest under the supervision of a member of the Department of Electrical Engineering or the Department of Computing Science, or other appropriate departments. (★3)

84.5 Electrical Engineering

Note A: A course listed for either term will be offered in the first term or in the second term.

Note B: In some cases prerequisite requirements may be waived with the consent of Department .

E E 301 Elements of Electrical Engineering
□3.8 (first term,3-0-3/2). Circuit parameters, Kirchoff's Laws, basic circuit analysis including loop and node methods, steady-state AC circuits, phasor diagrams, power, power factor, three-phase systems for power transmission, transformers, introduction to DC and AC rotating machines, motor selection for various applications. (★3)

E E 331 Electrical Engineering Design II
□2.5 (second term,2-1s-0). Advanced Fortran programming techniques; numerical techniques applied to Electrical Engineering problems; numerical integration, interpolation, Runge Kutta methods, solution of linear and nonlinear simultaneous equations. Prerequisite: ENCMP 100 or CMPUT 114. Corequisite: E E 356. (★3)

E E 354 Fundamentals of Electrical Engineering
□3.8 (second term,3-0-3/2). Physical concepts of resistance, inductance and capacitance. Kirchoff's Laws and circuit equations of DC networks, magnetic circuits, energy concepts, time domain analysis of R-L, R-C and R-L-C networks, complex numbers and phasor algebra, impedance concept, power factor, resonance, three phase circuits, network theorems, measuring instruments, vacuum tube and transistor. (★3)

E E 355 Electrical Circuits I
□4.3 (first term,3-1s-3/2). Definitions of linear elements, dependent and independent sources, sign conventions, basic circuit laws; node and mesh analysis. Thevenin, Norton and other theorems; phasor concepts, impedance, admittance, AC (sinusoidal) circuit analysis, validity of laws and theorems, phasor diagrams; average, effective values of waveforms, real, reactive and complex power, power factor correction; wye and delta 3-phase circuits, 3-phase power measurements; resonant circuits, frequency response, Q, half power points, bandwidth, effect on Q of non-ideal elements. Prerequisite: MAT★ 101. Corequisite: MATH 201 or 205. (★3)

E E 356 Electrical Circuits II
□4.3 (second term,3-1s-3/2). Network transients, responses for R-C, R-L, and R-L-C circuits; forced and complete response for general exponential and sinusoidal excitation. The Laplace Transform, models for L, C with initial conditions. Circuit examples. Partial fraction expansion. Bode plots, complex frequency, the complex plane. Transfer functions. Mutual inductance. Two port parameters. Models for transistors and amplifiers. Introduction to operational amplifier circuits. Prerequisite: MATH 201 or 205 and E E 355. (★3)

E E 379 Introduction to Digital Electronics
□3.4 (first term,3-0-3/4). Boolean Algebra including truth tables and Venn diagrams. Switching devices and their symbology with an introduction to NAND and NOR logic. Number systems, codes, minimization procedures, synthesis of combinational networks. Synchronous sequential circuits, flip-flops, counters. (No prerequisite). (★3)

E E 403 Electronic Instrumentation
□3.8 (second term,3-0-3/2). Fundamentals of electronics; amplification, oscillation, modulation applied to measuring instruments; methods of measuring non-electrical quantities. Examples of biomedical instrumentation. The laboratory will illustrate the use and limitations of typical instruments. Note: This course is offered for students of the Biological and Medical Sciences. (★3)

E E 405 Fundamentals of Electrical Engineering
□3.8 (second term,3-0-3/2). Magnetic fields, forces on conductors, induced voltage, commutation, DC motors. The induction motor, transformer action, torque - speed characteristics, applications. Transistors, biasing, basic amplifiers, operational amplifiers and circuits. Silicon Controlled Rectifiers and Applications. Introduction to logic devices. Prerequisite: E E 354 or equivalent. (★3)

E E 415 Engineering Electromagnetics I
□3.5 (first term,3-1s-0). Review of vector calculus, electrostatics, and magnetostatics. Electric and magnetic fields in material media, including polarization mechanisms and general boundary conditions. Solutions to static field problems. Maxwell's Equations and waves in free space, dielectrics and conducting media. Reflection and refraction, standing waves. Prerequisite: MATH 205, 209 and PHYS 238. (★3)

E E 416 Engineering Electromagnetics II
□2.5 (either term,2-1s-0). Transient and time harmonic signals on transmission lines, including impedance matching and the Smith Chart. Rectangular wave guides and resonators. Introduction to radiation. Prerequisite: E E 415. (★3)

E E 417 Electomagnetics for Computer Engineers
□3.0 (second term,3-0-0). Ideal transmission line, wave equation, travelling waves. Characteristic impedance, reflection coefficient, power flow, multiple reflections and transient response of a transmission line. AC steady-state and lossy transmission lines. Smith Charts, plane wave propagation, reflection and transmission coefficients. Implications on transmission rates of digital data. Local area networks, instrumentation buses. Prerequisite: PHYS 238 or equivalent. (★3)

E E 423 Analytical Methods of Electrical Engineering
□3.5 (either term,3-1s-0). Applications of the theory of partial differential equations to Maxwell's equations, heat flow problems, the transmission line equation and Laplace's equation. Transform methods and special functions. Prerequisite: E E 435 and MATH 311. (★3)

E E 430 Electromechanics I
□3.0 (first term,3-0-0). Magnetic circuits analysis with AC and DC excitation; properties of ferromagnetic materials; hysteresis and eddy current losses, stored energy, transformers, mechanical forces in magnetic devices, modelling and analysis of transducers. Prerequisite: E E 355. (★3)

E E 431 Electromechanics II
□3.8 (either term,3-0-3/2). An extension of E E 430 to rotating machines. Analysis and performance of DC, induction, and synchronous machines. Prerequisite: E E 430. (★3)

E E 435 Signals and Networks
□3.5 (first term,3-1s-0). Signal representation by discrete, continuous and generalized exponentials (Fourier series and Transforms), Spectra. Impulse response, superpostition and convolution integrals. Laplace Transform, single and double tuned circuits. Bode plots. The z-transform. Prerequisite: E E 356; MATH 206 and MATH 209 or equivalent. (★3)

E E 460 Introduction to Linear Systems
□3.4 (either term,3-0-3/4). Transfer functions of RC networks, feedback systems, block diagrams, open and closed loop transfer functions, pole locations; frequency and time domain response, sensitivity, state variables, state space. Application to the design of electrical filters. Prerequisite: E E 356, E E 435. (★3)

E E 470 Electronics I Active Devices
□4.3 (first term,3-1s-3/2). Electronic circuits and devices. P and N type semiconductor. Diodes, characteristics, and applications. JFETs and MOFETs; characteristics, amplifiers, logic devices, integrated circuits techniques. Transistors, NPN and PNP types, operation, biasing, amplifier circuits, load lines. Small signal modelling with application to simple amplifiers. Prerequisite: E E 356, and MATH 201 or 205. (★3)

E E 471 Electronics II Active Devices
□4.3 (either term,3-1s-3/2). BJT, JFET and MOSFET differential amplifiers, use in integrated circuits. High frequency effects in transistors. High and low frequency response of amplifiers. Negative feedback. BJT and CMOS operational amplifier design. MOS and bipolar digital circuitry. TTL and ECL logic families. Prerequisite: E E 470. (★3)

E E 479 Introduction to Microprocessors
□3.4 (either term,3-0-3/4). Microcomputer architecture, programming, and input/output problems. Prerequisite: E E 379. (★3)

E E 487 Statistical Methods in Electrical Engineering
□3.0 (first term,3-0-0). Introduction to descriptive statistics; measures of central tendency. Probability theory: discrete sample spaces, Bayes' rule, random variables. Discrete and continuous distributions (binomial, hypergeometric, Poisson; normal, standardized normal, exponential and chi-square). Estimation and sampling theory. Hypothesis testing. Application of techniques to electrical engineering measurements, to communications, reliability, queuing, modelling and simulation studies of electrical and computer engineering systems and other areas of signal analysis. (★3)

E E 489 Introduction to Communication Systems
□3.0 (either term,3-0-0). Spectral analysis, amplitude modulation, multiplexing, frequency modulation and pulse code modulation. Prerequisite: E E 435. (★3)

E E 501 Electrical Design
□3.0 (first term,3-0-0). Electrical design starting from fundamental principles using engineering methods. (★3)

E E 507 High Voltage Engineering
□3.8 (either term,3-0-3/2). High voltage phenomena, dielectric breakdown, effects of high fields, Corona, lightning, switching surges, insulation coordination, grounding. (★3)

EE AS 512 Physical Measurements in Medicine
□3.5 (either term,3-1s-0). Properties of the cell membrane, Nernst-Planck equation, Donnan membrane, constant field membrane, membrane impedance. Action potentials, voltage clamp measurements, membrane conductance, H-H equations, nerve conduction. Mathematical models of the axon. Electrodes. Gas and blood gas analysis. The ECG, EEG, and EMG, origin and type of these signals, measurement techniques. Blood flow and blood pressure measurements (invasive and non-invasive). Safety aspects of electrical equipment in medicine. Prerequisite: Consent of Department. (★3)

E E 514 Reliability Engineering
□3.0 (either term,3-0-0). Study of how and why electrical and mechanical systems and components fail; Murphy's law; definitions of reliability and failure modes; practical statistical distributions and frequency and duration approach for designing and evaluating system and component reliability levels; repairable, non-repairable and standby systems. Prerequisite: E E 487 or equivalent. (★3)

E E 521 Power Systems I
□3.0 (either term,3-0-0). Power system components, performance and characteristics of transmission lines, compensation, load flow methods, economic dispatch, z-bus fault analysis, introduction to stability. Prerequisite: E E 356, MATH 200 or 205. (★3)

E E 525 Power Systems II
□3.0 (either term,3-0-0). Faults and unbalanced operation of systems, symmetrical components, stability and control, circuit breakers, tie line control, overvoltages, lightning and switching surges. Prerequisite: E E 521 or consent of Department. (★3)

E E 527 Industrial Power Distribution
□3.0 (either term,3-0-0). Fundamentals of engineering design of electrical distribution systems for buildings and electrical plants. Current design practices and engineering methods. Prerequisite: E E 431. (★3)

E E 531 Power Electronics
□4.5 (either term,3-0-3). Characteristics of power devices; BJT, MOSFET, SCR, GTO, Diode, R, L and C. Electronic power conversion techniques; choppers for DC/AC conversion, rectifiers for AC/DC conversion, inverters for DC/AC conversion, cycloconverters for AC/AC conversion. Applications in variable speed drives, switchmode power supplies, UPS and pulsed power. Prerequisite: E E 356, E E 471. (★3)

E E 533 Electrical Energy Sources
□3.0 (either term,3-0-0). Energy consumption and reserves. Growth and usage characteristics. Electrical energy sources and costs, fossil, hydro nuclear and other sources. Economic planning of future sources and allocation of load among existing sources. (★3)

E E 535 Advanced Digital Logic Design
□3.4 (either term,3-0-3/4). Design and realization of synchronous and asynchronous sequential circuits. Design of controllers using standard integrated circuits and using MSI devices. Prerequisite: E E 379. (★3)

E E 537 Advanced Digital Topics
□3.0 (second term,1-0-4). Microprocessor circuitry and applications, with emphasis on laboratory construction. Prerequisite: E E 471, 479 and 535. Enrollment by consent of Department. (★3)

E E 538 Introduction to Signal Theory and Processing
□3.4 (either term,3-0-3/4). Discrete-time signals and systems; sampled signals and sampling theorem; the z-transform; design of digital filters; discrete Fourier Transform, the periodogram. Fast Fourier Transform, Algorithms, aliasing, leakage; spectral analysis, applications. Prerequisite: E E 435. (★3)

E E 539 Digital Filter Realization
□3.4 (either term,3-0-3/4). Approximation and finite-word length effects in digital filters. Digital filter implementation. A/D and D/A converters. Distributed arithmetic digital signal processors. FFT hardware realization. Noise in digital filters. Limit cycles and overflow oscillations. Prerequisite: E E 535 and 538. (★3)

EE AS 540 Digital Computer Processing of Images
□4.5 (either term,3-0-3). Extension of sampling theory and the Fourier transform to two dimensions, pixel operations including gray-level modification, algebraic and geometric transformations. The design of spatial filters for noise reduction, image sharpening and edge enhancement and some discussion of interpolation techniques. An introduction to the concepts of image restoration from known degradations and the reconstruction of images from parallel and fan projections. Prerequisite: E E 538 or consent of instructor. (★3)

E E 541 High Vacuum Technology
□3.8 (either term,3-0-3/2). Gas kinetics, gas flow, pumping speed theory, system design, pumping methods and pressure measurements, fabrication and leak detection techniques, adsorption and desorption processes, vacuum deposition techniques. (★3)

E E 545 Electrical Instruments and Relays
□4.5 (either term,3-0-3). A study of modern AC instruments, relays, and applications. (★3)

E E 550 Analog Filter Design
□3.0 (either term,3-0-0). Filter types. Operational Amplifier Circuits. Butterworth and Chebyshev response. Biquad, Sallen and Key and Delyannis filters. Frequency transformations. Ladder networks. Switched capacitor filters. Op-amp oscillators. Prerequisite: E E 460. (★3)

E E 552 Computer Aided Circuit Design
□3.5 (either term,3-1s-0). Study of circuit design with emphasis on the implementation of digital computer techniques. Principles of modelling of electrical components and devices. Network function evaluation, linear frequency domain circuit analysis, transient analysis, DC analysis of circuits. Sensitivity, circuit optimization. Prerequisite: E E 451. (★3)

E E 560 Control Systems I
□3.8 (either term,3-0-3/2). Feedback Control System Characteristics. PI, PD, and PID controllers. Stability, Routh Criterion, Root Locus Plots. Compensation, Lead and Lag Networks, Bode Plots, Nyquist Criterion. State space, state transition equations, state feedback. Prerequisite: E E 460 and MATH 311. Prerequisite or corequisite: E E 538. (★3)

E E 561 Control Systems II
□3.8 (either term,3-0-3/2). Important nonlinearities in systems; describing function method. State space method to describe systems; the phase plane method. Economic systems, ecological systems. System dynamics approach. Simulation, digital systems and design of digital controllers. Prerequisite: E E 560. Corequisite: E E 538. (★3)

E E 562 Control Systems for Computer Engineers
□3.8 (second term,3-0-3/2). Transfer functions, block diagrams and signal flow graphs for continuous and discrete-time dynamical systems. State variable representation for analysis. Modeling. Time-domain peformance specifications, stability and steady-state errors. Root-locus technique for digital compensator design. Digital implementation of feedback systems. Prerequisite: E E 435 and 538. (★3)

E E 569 Feedback Control Systems for Mechanical Engineers
□3.8 (second term,3-0-3/2). Mathematical models of physical systems in the time domain and frequency domain (Laplace Transforms). Block diagram and signal flow graphs. State diagrams. Time domain analysis of control systems. Input-output stability; Routh test. Root locus method for control system design. Discrete data control systems. (★3)

E E 570 Electronics III
□4.5 (either term,3-0-3). Linear and non-linear waveshaping circuits, large-signal models for bipolar and field-effect transistors, generation of linear voltage sweeps, multivibrators, gate circuits, operational amplifiers, A/D and D/A converters. Prerequisite: E E 471. (★3)

E E 571 Electronics IV
□4.5 (either term,3-0-3). Operational amplifier techniques, active filters, small-signal models for bipolar and field-effect transistors, tuned and untuned amplifiers, sinusoidal oscillators, modulation and demodulation techniques, device and system noise. Prerequisite: E E 460 and 570. (★3)

E E 572 Physical Electronics
□3.0 (either term,3-0-0). Crystalline solids; quantum and wave theory of solids, electrons in periodic lattices; semiconductors; metal-metal structure; metal-insulator-semiconductor structure; high electric fields in semiconductors and failure mechanisms of semiconductor devices. Prerequisite: E E 423. (★3)

E E 573 Introduction to Integrated Circuits
□3.0 (either term,3-0-0). Models for bipolar IC devices. Bipolar IC technology. Components of bipolar IC. Single and two transistor amplifiers. Current sources. Output stages. Models for MOS devices. CMOS technology. Scaling down the dimensions of MOS devices. Basic MOS analog circuits. Elemental bipolar and MOS digital circuits. Prerequisite: E E 470. Prerequisite or corequisite: E E 471. (★3)

E E 575 Generation of High Frequencies
□3.8 (either term,3-0-3/2). Fundamentals of microwave amplifiers and oscillators. Introduction to the principles of operation and the properties of important microwave tubes and microwave semiconductor devices. Prerequisite: E E 416. (★3)

E E 577 Pulse and Waveshaping Circuits
□3.0 (either term,3-0-0). Waveshaping circuits using passive elements and active devices; pulse generating circuits, mainly multivibrators and blocking oscillators; generation of linear voltage and current sweeps; other topics such as counting circuits, gating circuits, applications to computers, television, etc. Prerequisite: E E 471. Corequisite: E E 570. (★3)

E E 583 Introduction to Plasma and Fusion
□3.0 (either term,3-0-0). Energy sources and conditions for nuclear fusion. Behaviour of plasma. Collision phenomena. Boltzmann equation, transport properties, electrical breakdown of gases. Hydrodynamic and individual particle methods. Current experimental approaches to fusion — steady state and pulsed. State-of-the-art in confinement and heating of plasma. (★3)

E E 585 Acoustics
□3.0 (first term,3-0-0). General laws; impedance; transducers; enclosures; room acoustics; etc. (★3)

E E 586 Introduction to Optical Fibre Communications
□3.0 (either term,3-0-0). Properties of optical communication systems; dispersion, attenuation and physical properties of single mode and multimode fibres; LED and laser diode sources; photodetectors; optical coupling; system design; latest developments. Prerequisite: E E 471 and 489 or consent of Department. (★3)

E E 588 Communication in Noise
□3.0 (either term,3-0-0). Probability, random variables and processes, Gaussian noise, noise in AM and FM Systems, data transmission, information theory and coding. Prerequisite: E E 487 and 489. (★3)

E E 589 Telecommunication Systems
□3.5 (either term,3-1s-0). Common-carrier telecommunication systems (including telephone networks); signal quality and systems specifications; exchange switching and queuing; distortion and signal-to-noise ratio; multiplexing, modems and frequency converters; transmission media, digital transmission methods, and system constraints; signal conditioning; field trips. Prerequisite: E E 489. (★3)

E E 591 Antennas and Propagation
□3.0 (either term,3-0-0). Introduction to radiation, antenna fundamentals, self- and mutual-impedances of linear antennas, arrays of linear antennas, practical considerations and feeding arrangements. Friis transmission equation, propagation between elevated antennas over a lossy earth, Fresnel zones and the effect of obstacles, earth curvature and the effects of normal refraction and ducting, tropospheric scatter, propagation in an ionized medium, ionospheric critical frequency and MUF. Prerequisite: E E 356 and 416. (★3)

E E 593 Advanced Topics in Engineering Electromagnetics
□3.0 (either term,3-0-0). Engineering aspects of wave propagation in ionized gases, waves in anisotropic media (including ferrites), magnetohydrodynamics, space charge waves, travelling wave tubes, accelerators, periodically loaded structures, surface waveguides, forces on dielectric and magnetic materials in non-uniform fields and their biomedical and industrial applications, perturbation theory. (★3)

E E 594 Research Project Seminar
□0.5 (either term,0-1s-0). Organizational seminars for the research project in the following term. (★1)

E E 595 Research Project
□3.0 (either term,0-0-6). Engineering Physics student research projects. (★3)

E E 596 Introduction to Principles and Physics of Lasers
□3.0 (either term,3-0-0). Interaction of radiation with atoms, laser oscillations and threshold conditions, 3- and 4-level laser systems, rate equations, special properties of laser light, cavity Q and photon lifetime, optical resonators and lens waveguides, Gaussian beams, gain saturation, Q-switching, mode locking, interaction of light and sound, holography. Description of various lasers: solid, gas, semiconductor, dye, Raman and chemical. Laser applications. Prerequisite: E E 416 or equivalent. (★3)

E E 597 Microwave Engineering
□3.8 (either term,3-0-3/2). Properties of transmission media, synthesis of impedance transformers, microwave junctions, scattering matrix and scattering parameters, properties of microwave cavities, filters, ferrite circulators and isolators. Prerequisite: E E 416. (★3)

E E 598 Special Problems I
□3.0 (first term,3-0-0). (★3)

E E 599 Special Problems II
□3.0 (second term,3-0-0). Courses E E 598 and 599 are intended to enable individuals or a small group of students to study topics in their particular field of interest under the supervision of a member of the Faculty. (★3)

84.6 Engineering, General

ENCMP 100 Computer Programming for Engineers
□3.8 (either term,3-0-1.5). Computer programming with application to engineering problems: use of computer workstations, structured programming using FORTRAN, use of subprogram libraries, introduction to computer graphics, debugging techniques. Restricted to Engineering students only. (★3)

ENGG 200 Orientation to the Engineering Profession I
□1.0 (first term,1-0-0). An outline of the development and history of the engineering profession; the branches of engineering; the work of the engineer in the various branches. The course will consist basically of presentations from practitioners drawn from the various branches of engineering. Several written assignments will be required, which will form the basis for assessment of the student's proficiency in report writing. (★1)

ENGG 201 Orientation to the Engineering Profession II
□1.0 (second term,1-0-0). An outline of the work of the engineer in the various branches of engineering; the development and history of the engineering profession. This course will consist basically of presentations from practitioners drawn from the various branches of engineering. (★1)

ENGG 210 Engineering Drawing and Computer Graphics
□3.5 (either term,2-0-3). Multiview representation, pictorial views of three-dimensional objects. Introduction to MS/DOS. Computer-aided graphics using AutoCAD on microcomputers. Note: Students in all sections of this course will write a common final examination. (★3)

ENGG 230 Engineering Mechanics I
□4.0 (either term,3-0-2). Equilibrium of planar systems. Analysis of statically determinate trusses and frames. Friction. Virtual work. Three-dimensional equilibrium. Note: students in all sections of this course will write a common final examination. Corequisite: MATH 100. (★3)

ENGG 231 Engineering Mechanics II
□4.0 (either term,3-0-2). Centroids and centers of gravity. Forces in beams and cables. Force and moment diagrams. Distributed forces. Fluid Statics. Second moments of area. Particle kinematics and kinetics. Energy and momentum of a particle. Systems of particles. Prerequisite: ENGG 230 and MATH 100. Note: Students in all sections of this course will write a common final examination. (★3)

ENGG 300 Orientation to Cooperative Education
□1.0 (first term,1-0-0). An examination of the history, philosophy and objectives of Cooperative Education; introduction to the operation of the Cooperative Studies Program; self-assessment of transferable skills and work values; preparation of the resumé; practice of job interview skills; goal setting on the job; ethics, safety and human rights. Note: This course is only open to students registered in the Cooperative Studies Program and must be taken prior to a student's first work placement. (★1)

ENGG 308 Computer Aided Design
□3.0 (first term,2-1s-1). Introduction to microcomputers and microcomputer-aided design for non-engineering students. Introduction to multiview drawing for a variety of applications. MS/DOS commands for the beginner. Computer-aided drawing using AutoCad on IBM type PS/2 microcomputers. This course is not open to students registered in Engineering or Science. (★3)

ENGG 420 Engineering Law
□3.0 (either term,3-0-0). Contracts; specifications; tenders; bonds; construction contract forms; Public Works Act; Workers' Compensation Act; building trades; company law; the engineer as an expert witness; patents; trade marks; copyrights; negligence; arbitration. Note: Restricted enrollment. Registration approval by Dean's office only. Credit will be granted for only one of ENGG 420 and LEG R 301. (★3)

ENGG 500 The Practice of the Engineering Profession
□1.0 (second term,1-0-0). The technical and professional duties and responsibilities of the engineer, the ethics of the engineering profession, technical and professional organizations. The role of the engineer in the social environment. Note: Restricted to fourth-year regular and fifth-year co-op engineering students. (★1)

ENGG 502 Project Management and Entrepreneurship
□3.0 (either term,3-0-0). The theory and practice of project management applied to the creation of new business activities and ventures. Intended to provide engineering and business students with an awareness of specific planning, budgeting and scheduling techniques which can be used to implement and monitor new business activities, especially those which require high ratios of capital investment per employee. Emphasis is placed on the importance of individual behaviour and performance in starting new activities and attaining non-routine objectives. Comparisons of sole proprietorships and partnerships versus corporations, matrix versus line organizations, leadership and entrepreneurship versus administration. Introduction to finance, marketing and tax principles. Preparation of memos, letters, reports and management presentations to help communicate ideas to others. Prerequisite: Engineering, Business or Science students who have completed the second year of their programs. (★3)

ENGG 504 Safety and Loss Management
□3.8 (first term,3-3s/2-0). A review of the theory and practice of providing a safe working environment in all types of major industries. Risks and hazards are identified which are characteristically present in industry. This will include risks to people, equipment, production and environment. This course provides an examination of safety and loss management, particularly emphasizing the importance of the decisions of engineers and business managers in protecting workers, industry assets and the public in general. Government regulatory requirements will be reviewed. (★3)

ENGG 505 Engineering, Business and Society
□3.0 (either term,3-0-0). An interpretative course on the art and science of engineering. The evolution of engineering. Examples and discussions of engineers' varied roles throughout business and society. Emphasis on engineers as 'problem solvers' who apply scientific principles and judgement to the creation and optimization of safe systems, and to the identification of those special systems which offer the best return on an investment of money, time and other resources. Attention is directed to major current and long-term business and societal problems in such areas as energy supply, population growth, man's impact on the environment, and Canada's technology and business status. Note: This course is intended for Business and Engineering students registered in their third or fourth year. Students from other faculties may be admitted on a space-available basis. (★3)

ENGG 506 Risk and Loss Management
□3.8 (second term,3-3s/2-0). A comprehensive review of the theory and practice of providing a safe working environment in all types of major industries. This will include risks to people, equipment, production and environment and review of productive type programs to eliminate or reduce these risks. The course strongly emphasizes risk analysis, risk management, loss control and the management, motivation and leadership required to provide excellence of results. It will also outline the legal responsibilities of engineers and business managers. Particular emphasis will also be given to the performance of small to medium size companies. (★3)

84.7 Mechanical Engineering

MEC E 350 Engineering Mechanics: II
□3.5 (either term,3-0-1). Moments of inertia. Kinematics and kinetics of rigid body motion, energy and momentum methods, impact, mechanical vibrations. Prerequisite: ENGG 231 and MATH 101. (★3)

MEC E 361 Mechanical Design I
□3.5 (second term,2-0-3). Design morphology, analysis and design of components, computer-aided design introduction, design project. Prerequisite: CIV E 360, ENCMP 100. (★3)

MEC E 400 Mechanical Measurements
□3.0 (either term,3-0-0). Characterization and behaviour of measuring systems. Statistics and analysis of measurement data; measurement techniques applied to fundamental mechanical engineering phenomena. Prerequisite: CIV E 360, E E 354, STAT 235. Corequisite: MEC E 431. (★3)

MEC E 401 Mechanical Engineering Laboratory
□2.5 (either term,1-0-3). Laboratory experiments in mechanical engineering measurement techniques, treatment of measurement data, introduction to engineering report writing. Corequisite: MEC E 400. (★3)

MEC E 403 Mechanical Engineering Laboratory I
□2.5 (either term,1-0-3). Selected laboratory experiments in applied mechanics and thermosciences. Prerequisite: MEC E 400, 401. (★3)

MEC E 412 Quality Control
□3.0 (either term,3-0-0). Industrial engineering and statistical techniques of quality control including: Pareto Analysis, Fishbone charts, sampling distributions, Lot acceptance sampling plans, rectifying inspection, control charts and Taguchi methods. Prerequisite: STAT 235. (★3)

MEC E 413 Engineering Economy
□3.0 (either term,3-0-0). The application of the fundamentals of economics to engineering alternatives in planning, developing and managing industrial projects. (★3)

MEC E 415 Analytical Decision Making with Micro-Computers
□3.5 (either term,3-0-1). The structuring and solution of operational problems in technical organizations with the aid of micro-computers, decision analysis, quantitative methods of decision-making, and micro-computers, the large and small technical organization and the place for micro-computers. Prerequisite: STAT 235. (★3)

MEC E 431 Fluid Mechanics
□3.5 (either term,3-0-1). Basic equations, hydrostatics, Bernoulli equation, momentum theories, similitude, fluid metering, fluid friction in pipes, external flow, boundary layers. Prerequisite: MEC E 350, MATH 209. Corequisite: CH E 324. (★3)

MEC E 440 Applied Thermodynamics
□3.0 (either term,3-0-0). Review of the fundamentals of thermodynamics. Cycle analysis and application to gas compressors, gas and steam turbines, and refrigeration, availability analysis, principles of combustion, psychrometry. Prerequisite: CH E 324. (★3)

MEC E 450 Vector Dynamics
□3.0 (either term,3-0-0). Kinematics of rigid bodies in three dimensions. Moments of inertia, equations of motion for a body, engineering applications. Prerequisite: MEC E 350. (★3)

MEC E 461 Mechanics of Machines
□3.8 (either term,3-0-3/2). Velocities and acceleration in plane mechanisms, balancing of rotating and reciprocating machinery, gears and gear trains. Prerequisite: MEC E 350. (★3)

MEC E 462 Mechanical Design II
□3.8 (either term,3-0-3/2). Design procedures, theories of failure, material selection, design for fatigue, creep and relaxation, selection of gears and bearings, development and application of computer-aided design software. Prerequisite: MEC E 361. (★3)

MEC E 464 Manufacturing Processes
□2.8 (either term,2-0-3/2). Primary and secondary processes in metal forming, material removal and fabrication techniques, selected field trips and laboratory and shop exercises. Prerequisite: MEC E 361. (★3)

MEC E 482 Advanced Strength of Materials I
□3.0 (either term,3-0-0). Review of stress, strain, stress-strain relation, time-independent and time-dependent behaviour, virtual work and energy theorems, deformations, indeterminate systems, matrix methods. Prerequisite: MEC E 361. (★3)

MEC E 490 Historical Review of Engineering
□2.0 (first term,2-0-0). The historical development of engineering emphasizing the interactions of engineering with the societal development of man. (★3)

MEC E 491 Computer-Aided Engineering
□3.5 (either term,3-0-1). Application of numerical methods to mechanical engineering problems; topics include roots of algebraic and transcendental equations, simultaneous equations, curve fitting and interpolation, numerical integration and differentiation, numerical integration of ordinary differential equations. Prerequisite: MATH 200, 201, ENCMP 100 (or equivalent). (★3)

MEC E 501 Engineering Design
□2.0 (first term,2-0-0). Oral presentation and report writing techniques. Presentations by students and selected guest lecturers on design problems in engineering. (★2)

MEC E 509 Experimental Design Project I
□2.5 (either term,1-0-3). Selected group projects in experimental measurement and mechanical design. Two to four person groups develop planning, design, testing and report writing skills on projects in applied mechanics, thermosciences and engineering management. Prerequisite: MEC E 403 and MEC E 413. (★3)

MEC E 512 Operations and Total Quality Management I
□3.5 (either term,3-0-1). The systematic design and implementation of Total Quality Management systems, systems design, marketing, production, forecasting the benefits of quality improvements, work study, cost estimating, just-in-time, Materials Requirement Planning (MRP)II, quality circles and microcomputers. Corequisite: MEC E 413. (★3)

MEC E 513 Operations and Total Quality Management II
□3.5 (either term,3-1s-0). The scheduling and control of service systems. Total Quality Management in the service sector. Forecasting, maintenance, staff planning and scheduling. Special emphasis will be given to project scheduling and control. Prerequisite: STAT 235 or equivalent. (★3)

MEC E 514 Reliability and Maintainability
□3.0 (either term,3-0-0). The study of reliability in engineering design, definitions of reliability, maintainability, hazard functions, failure rates, frequently used probability distributions, the economics of reliability and maintenance, single and multiple component systems. Prerequisite: STAT 235. (★3)

MEC E 523 Principles of Heating and Air Conditioning
□3.5 (either term,3-1s-0). The characteristics of heating, cooling, refrigeration and heat pump systems, performance of system components, energy management, and energy conservation, solar energy systems. Prerequisite: MEC E 431 and 440. (★3)

MEC E 531 Advanced Fluid Mechanics
□3.0 (either term,3-0-0). Laminar and turbulent flow theory, ideal flow theory, boundary layers and separation. Prerequisite: MEC E 431. (★3)

MEC E 532 Compressible Flow
□3.0 (first term,3-0-0). One dimensional flow in pipes and varying area-nozzles, normal shock waves, flow in constant area pipes with friction and heat addition, methods of measurement in compressible flow, behaviour of real, non-ideal gases and two phase flow, flow transients. Prerequisite: MEC E 431. (★3)

MEC E 537 Aerodynamics
□3.0 (either term,3-0-0). Boundary layer flow, vorticity, circulation and aerodynamic lift, wing theory, aeronautical applications. Corequisite: MEC E 431. (★3)

MEC E 541 Combustion Engines
□3.0 (either term,3-0-0). History of basic cycles, combustion theory including ignition flame propagation and engine knock, cycle analysis with deviations from ideal cycles and performance characteristics, fuels, design and operation of carburation and injection processes, exhaust emissions measurements. Identification of design parameters and their effect on emissions. Prerequisite: MEC E 440. (★3)

MEC E 543 Energy Conversion
□3.0 (either term,3-0-0). Sources, flow and overall efficiency of use of various energy forms in society, thermodynamic analysis of energy conversion devices such as

thermoelectric and magnetohydrodynamic generators, solar and fuel cells, energy from fission and fusion reactors. Prerequisite: MEC E 440. (★3)

MEC E 550 Vibrations and Sound
□3.5 (either term,3-0-1). Free and forced vibration of single degree of freedom systems with and without damping, vibration isolation, free vibration of multi degrees of freedom systems, vibration absorption, beam vibrations, sound waves, sound sources, subjective aspects of noise. Prerequisite: MEC E 350. Corequisite: MATH 300 or CH E 476. (★3)

MEC E 552 Advanced Vibrations
□3.0 (either term,3-0-0). Free vibration of systems with many degrees of freedom, nonlinear oscillations. Prerequisite: MEC E 451. (★3)

MEC E 553 Acoustics and Noise Control
□3.0 (either term,3-0-0). Acoustic waves, sound transmission through walls and structures, acoustics of large and small rooms, mechanisms of sound absorption. Design of silencers. Prerequisite: MEC E 431 and 451. (★3)

MEC E 555 Introduction to Robotics
□3.0 (either term,3-0-0). History and description of industrial robot applications, kinematics of industrial manipulators, actuators and servomechanisms, gripper design, motion planning, programming and simulation, work cell design, social implications. Prerequisite: MEC E 350 and MATH 200 or equivalent. (★3)

MEC E 561 Design Project
□3.0 (second term,1-0-4). Selected design projects requiring the student to exercise creative ability, to make assumptions and decisions based on synthesis of technical knowledge, and in general, devise new designs, rather than analyse existing ones. Prerequisite: MEC E 413, 462, 571, 584. (★3)

MEC E 562 Mechanical Systems Design
□4.0 (second term,3-0-2). Design and optimization of thermo-fluid systems, heating and ventilation equipment and load calculations, system design, piping networks, heat exchanger analysis and design, computer-aided design projects. Prerequisite: MEC E 571. (★3)

MEC E 563 Mechanical Computer-Aided Engineering II
□3.0 (either term,3-0-0). Application of finite element methods to the analysis of rods, beams, trusses, frames, plane problems in elasticity, fluid mechanics, heat transfer and lubrication. The design of machine components using finite element programs. Prerequisite: MATH 300 or CH E 476 and MEC E 462 (or equivalents). (★3)

MEC E 565 Environmental Factors in Mechanical Engineering
□3.0 (either term,3-0-0). Properties of the environment important for engineering design, adverse effects of technology on air and water environment, dispersion and control of air pollution, government legislation. Prerequisite: CH E 324. Corequisite: MEC E 431. (★3)

MEC E 569 Experimental Design Project II
□2.5 (either term,1-0-3). Advanced project in experimental measurement and mechanical designs in applied mechanics, thermosciences and engineering management. Prerequisite: MEC E 509. (★2.5)

MEC E 570 Advanced Heat Transfer
□3.0 (second term,3-0-0). Advanced topics in conduction, convection and thermal radiation heat transfer, with special emphasis on analytical and numerical solution techniques applied to engineering problems. Prerequisite: MEC E 571, MATH 300 or CH E 476. (★3)

MEC E 571 Heat Transfer
□3.5 (first term,3-1s-0). Mechanisms of heat transfer, steady and unsteady heat conduction, numerical analysis, thermal radiation, free and forced convection, heat exchanger analysis and heat transfer with change of phase. Prerequisite: MEC E 431. (★3)

MEC E 584 Advanced Strength of Materials II
□3.0 (first term,3-0-0). Special topics for beams, torsion, pressure vessels, plane stress and strain, stability, fracture mechanics. Prerequisite: MEC E 462, 482, MATH 300 or CH E 476. (★3)

84.8 Mining, Metallurgical and Petroleum Engineering

84.8.1 Metallurgical Engineering

MET E 351 Materials Science I
□3.0 (either term,3-0-0). An introduction to the science of materials from the standpoint of the relationships between structure and physical and mechanical properties. Atomic bonding, crystal structure and crystal imperfections, binary phase equilibria and phase transformations. Structures of metallic, non-metallic and composite materials. Elastic and plastic deformation, fracture, fatigue and creep in crystalline and amorphous solids. Corrosion and thermal stability of materials in service. Prerequisite: CHEM 105 or consent of Department. (★3)

MET E 352 Materials Science II
□3.8 (either term,3-0-3/2). An introduction to the science of materials relating their mechanical, thermal, electronic and chemical properties to atomic, molecular and crystal structure. Ceramic and metallic crystals, glasses, polymers and composite materials. Multi-phase materials, strengthening processes. Laboratories include mechanical properties of metals and polymers, microstructure, heat treatment of steel, corrosion. Prerequisite: CHEM 105. (★3)

MET E 356 Materials Engineering II
□3.8 (second term,3-0-3/2). Introduction to structure-properties relationships, crystallography, x-ray diffraction, structures of non-crystalline materials, techniques for characterization of structure and microstructure, microstructure in single phase metals and alloys, microstructure in non-crystalline materials. Prerequisite: MET E 352 or equivalent. (★3)

MET E 431 Mineral Processing I
□4.5 (second term,3-0-3). Unit operations employed to concentrate minerals including comminution, classification, gravity concentration, froth flotation, thickening, filtering; tailings disposal; marketing of minerals; economics. Prerequisite: MMP E 392 or consent of instructor. (★3)

MET E 432 Pyrometallurgy
□3.8 (second term,3-0-3/2). Nature of ores, furnaces, fuels, slags, mattes and refractories. Metallurgical calculations. Metallurgical unit processes involving the use of elevated temperatures to extract metals including calcining, roasting, reduction, distillation, smelting, converting, refining and casting. Metals discussed include iron and steel, lead, zinc, titanium, tin and copper. Prerequisite: MET E 440 or consent of instructor. (★3)

MET E 440 Metallurgical Thermodynamics and Kinetics
□3.0 (first term,3-0-0). Application of thermodynamics and kinetics to problems in extractive and solid-state metallurgy. Review of thermodynamic variables and mathematical prerequisites. Solution thermodynamics applied to metallurgical reduction and refining processes, phase equilibria. Experimental methods and estimation of thermochemical data, kinetics of homogeneous and heterogeneous metallurgical processes; formal basis of diffusion theory. Prerequisite or corequisite: CHEM 271. (★3)

MET E 450 Physical Metallurgy
□3.8 (first term,3-0-3/2). The physical metallurgy of engineering alloys, composition, heat treatment and engineering properties of steels, cast irons and selected non-ferrous alloys. Materials selection. Metallurgy of welding and joining. Prerequisite: MET E 352. (★3)

MET E 451 Electronic Materials I
□3.0 (first term,3-0-0). The science of electronic materials relating atomic, molecular and crystal structure to material properties; polymers, glasses, crystalline ceramics, metals, and composites; diffusion, electrochemical and corrosion properties; phase equilibria, strengthening mechanisms, mechanical properties and failure; electrical conductors, semiconductors, and dielectrics; thermal, magnetic, and optical properties. Prerequisite: CHEM 105. Not open to students with credit in MET E 351 or MET E 352. (★3)

MET E 457 Fundamentals of Physical Metallurgy I
□4.5 (first term,3-0-3). Elements of crystallography. Stereographic projection, x-ray diffraction, structure of alloys, crystal defects. Diffusion. Phase equilibria and transformations. Prerequisite: MET E 351 or 352. (★3)

MET E 458 Fundamentals of Physical Metallurgy II
□4.5 (second term,3-0-3). Elastic deformation. Dislocation theory, plastic deformation of crystals, strengthening mechanisms, annealing behaviour. Fracture, creep and fatigue processes. Prerequisite: MET E 457. (★3)

MET E 480 Ceramics
□3.0 (second term,3-0-0). Structure, processing, characterization, properties and application of ceramic materials and glass. Ceramic raw materials. Crystal chemistry and physics. Glassy state. Crystal defects, nonstoichiometry, diffusion, phase diagrams. Powder preparation, ceramic fabrication. Characterization of ceramic powders and components. Thermal, mechanical and electrical properties. Traditional and recent applications. Prerequisite: MET E 356 or consent of instructor. (★3)

MET E 530 Hydrometallurgy and Electrometallurgy
□3.8 (first term,3-0-3/2). Principles and applications of hydrometallurgical and electrometallurgical processes to extract metals: atmospheric and pressure leaching, ion exchange, solvent extraction, hydrogen reduction, electrowinning and electrorefining. Metals discussed include copper, nickel, cobalt, uranium, zinc, aluminum and magnesium. Prerequisite: MET E 440 or consent of instructor. (★3)

MET E 533 Mineral Processing II
□2.8 (first term,2-0-3/2). Chemical and mineralogical analyses of ores, metallurgical testing, process evaluation, flowsheet development and economic evaluation. Prerequisite: MET E 431. (★2)

MET E 534 Metallurgical Process Analysis
□3.8 (second term,3-0-3/2). The analysis, optimization and control of mineral and metallurgical processing systems through mathematical modelling and digital simulation. Instrumentation and control of metallurgical processing plants. Prerequisite: MMP E 490 and MET E 431 or MET E 432. (★3)

MET E 535 Fuel Technology
□3.0 (first term,3-0-0). Formation and metamorphic development of coal. The coal 'series'. Coal compositions. Mineral matter in coal. Physical and chemical properties of coal. Introduction to coal conversion. Metallurgical fuels and stoichiometry. Synthesis gas conversion. Producer gas and water gas utilization. Fuel combustion and heat utilization. Prerequisite: MET E 352. (★3)

MET E 540 Metallurgical Research Project I
□1.5 (first term,0-0-3). Research on current topics in metallurgical and mineral engineering, including physical, chemical and mechanical metallurgy, and mineral processing. Literature survey on a specific topic and submission of a detailed research proposal. Corequisite: MMP E 599. (★2)

MET E 541 Metallurgical Research Project II
□3.0 (second term,0-0-6). Execute research according to research proposal prepared in MET E 540. Write research report. Prerequisite: MET E 540. Corequisite: MET E 549. (★3)

MET E 542 Metallurgical Plant Design and Operation
□3.5 (second term,2-0-3). Fundamental concepts of design, flowsheet layout, cost estimation, profitability analysis, equipment sizing and selection, maintenance scheduling and operating practices. Prerequisite: MET E 431. (★3)

MET E 543 Special Topics in Metallurgy
□3.0 (either term,3-0-0). Physical and chemical principles underlying metallurgical topics of current interest such as composite materials, materials problems in energy conversion, electrofinishing, recycling, extraction of metals from fossil fuels, iron and steelmaking, and refractory-slag interactions. (★3)

MET E 545 Corrosion and Oxidation
□3.0 (either term,3-0-0). Electrochemical theory of galvanic attack, concentration cells and differential temperature cells. Uniform attack. The interaction of mechanical stresses and corrosion. Selection of corrosion-resistant materials. Protective coatings, inhibitors and cathodic protection, corrosion testing, high-temperature oxidation and other gas-metal reactions. Prerequisite: MET E 351 or 352. (★3)

MET E 548 Metallurgical Field Trip
□0 0. An extended trip to visit mining and metallurgical plants is made every second year by Third- and Fourth-Year Mining, Mineral Processing and Metallurgy students accompanied by staff. Fourth-Year students in Metallurgy may also be required to make several part-day trips during the session to mining, metallurgical and other industrial plants near Edmonton. Prerequisite: MET E 356. (★0)

MET E 549 Metallurgical Seminar
□1.0 (second term,1-0-0). Meetings of staff and fourth-year students for discussion of topics from recent literature related to metallurgical research. Prerequisite: MET E 432 and 457. (★1)

MET E 552 Applications of Physical Metallurgy I
□3.8 (first term,3-0-3/2). Service conditions, mechanical properties and materials selection of engineering alloys. Composition, structure, heat treatment and properties of alloys including steels, tool and die materials, refractory metals, and light metal alloys. Metallurgical design. Prerequisite: MET E 457. (★3)

MET E 553 Applications of Physical Metallurgy II
□3.8 (second term,3-0-3/2). Solidification processing, deformation processing. Metal working by forging, rolling and drawing. Powder metallurgy. Metallurgy of welding and joining. Prerequisite: MET E 552 or 450. (★3)

MET E 555 Special Topics in Metal Processing
□3.0 (second term,3-0-0). Studies of the metallurgical background of specific metal processing techniques which are of current interest. Prerequisite: MET E 552 or 450. (★3)

MET E 567 Polymers and Fibre Reinforced Polymers
□3.5 (either term,3-1s-0). Introduction. Structure and behaviour of polymers. Polymer processing techniques. Stiffness and strength of polymers. Fracture of polymers. Fibre-polymer composites. Fluid flow and heat transfer in melt processing. Interactions of processing and properties. Polymer adhesives. Prerequisite: MET E 352 or equivalent. (★3)

MET E 570 Electronic Materials II
□3.5 (either term,3-1s-0). Structure, properties and processing of electronic, magnetic and optical materials. Electron and photon behavior in materials discussed in terms of band theory. Electron effects in conductors, semiconductors, superconductors, ferrites and magnetic alloys, dielectric and peizoelectric materials. Processing of electronic devices by means of single crystal growth, epitaxial growth, solid state diffusion, ion implantation and photolithography. Materials design and characterization of electronic devices. Prerequisite: MET E 352 or MET E 451. (★3)

84.8.2 Mining Engineering

MIN E 395 Introduction to Mining Engineering
□3.8 (second term,3-0-3/2). The relationships of geology, rock mechanics, labor productivity, and economic factors to the selection, planning, design, and safe operation of mining systems. Environmental planning and impact mitigation principles. Determination of the mine/mill product price required to provide a specified rate of return on capital investment. Prerequisite: MMP E 392 or consent of instructor. (★3)

MIN E 410 Ore Reserve Estimation
□3.0 (first term,3-0-0). Genesis of mineral deposits, sampling and estimation of ore grades and volumes, conventional ore reserve estimation techniques, evaluation of reserves by geostatistical techniques. Prerequisites or corequisites: MATH 200 and STAT 235. (★3)

MIN E 423 Rock Mechanics
□4.5 (first term,3-0-3). Mechanical properties of rock masses, field and laboratory determination; classification and index testing; permeability and flow; stresses around underground openings, elastic prototypes and numerical methods; ground support principles and mechanics of common support systems, loads on supports; hydraulic backfill, earth pressures, consolidation theory and practical consequences in mining; mechanics of subsidence and caving; rockburst mechanics; slope stability, rock mechanics instrumentation. Prerequisite: CIV E 360 or consent of instructor. (★3)

MIN E 424 Blasting and Explosives
□2.0 (second term,2-0-0). Characteristics of explosives and initiation systems, design of surface and underground rounds, controlled blasting, vibrations, fragmentation without explosives, drilling. Prerequisite: MIN E 395 or consent of instructor. (★2)

MIN E 430 Mine Transport and Materials Handling
□3.8 (second term,3-0-3/2). Objectives of materials handling; surface and underground haulage; hoists and hoisting; material conveying; hydraulic pipelining; analysis of materials handling systems. Prerequisite: ENCMP 100 and MIN E 395 or consent of instructor. (★3)

MIN E 501 Mine Plant Engineering
□3.5 (first term,3-1s-0). Practical aspects of electrical engineering in mines: power, distribution, AC and DC motors, AC to DC conversion, control of peak loads, energy management. Compressors and compressed air in mines. Pumps and mine dewatering. Principles of mine equipment maintenance organization. Prerequisite: MIN E 395, E E 301 and CH E 412 or consent of instructor. (★3)

MIN E 502 Mine Design Project I
□1.5 (first term,0-0-3). Preliminary data collection and identification of problems for mine design project (see MIN E 503). Submission of report describing scope of project and primary data requirements. Selection and practice with various tools to be used in project, e.g. computer programs. Preparation of computer programs as required. Prerequisite or corequisite: MIN E 513 and MIN E 514. (★2)

MIN E 503 Mine Design Project II
□3.0 (second term,0-0-6). Planning of exploration, surface and/or underground layout and operation of a mine. Students work in groups, having selected a problem involving a mineral deposit, prepare plans, schedules for its development. Results are to be submitted in a report, complete with drawings, specifications and cost estimates. Prerequisite: MIN E 502. (★3)

MIN E 506 Ventilation and Safety in Mines
□3.8 (second term,3-0-3/2). Health and safety: mine dust and gases, diesel emissions, radiation, humidity, heat, electrical hazards, blasting, drilling, mine flooding, roof falls; safety organizations and regulations. Mine ventilation: mechanics of air flow, ventilation circuits and fans. (★3)

MIN E 507 Principles of Mine Ventilation
□2.8 (second term,2-0-3/2). Principles and practices for control of underground mining atmospheric environment. Prerequisite: CH E 412, MIN E 514, or equivalent (★2)

MIN E 510 Mining Enterprise Economics
□2.0 (first term,2-0-0). The economics of a resource enterprise. New venture analysis, capital and operating cost estimates, commodity price trends, long-term supply contracts, stock and futures markets. Analyses of selected companies. Prerequisite: MMP E 392 or consent of instructor. (★2)

MIN E 513 Surface Mining
□3.8 (first term,3-0-3/2). Surface mining methods. Planning and operation of surface mines: pit designs and pit limits, equipment selection, control of operations. Land conservation and reclamation. Prerequisite: MIN E 410, MIN E 430 and MIN E 423 or consent of instructor. (★3)

MIN E 514 Underground Mining
□3.8 (first term,3-0-3/2). Principles of engineering and operating underground mines, including key factors related to mining method selection, mine planning, examination of individual mine operations, mine organization, labour productivity, cost estimating and cost control. Methods studied include room-and-pillar, sublevel stoping and caving, vertical crater retreat, block caving, selective methods for vein mines, and underground coal mining systems. Prerequisite: MIN E 423 and 424 or consent of instructor. (★3)

MIN E 517 Mine Dewatering
□3.0 (second term,3-0-0). Flow through rock masses; regional hydrology; predicting inflows; methods of dewatering; methods of controlling mine water; design of pipelines, pumps, motors, starters and pipeline controls; corrosion; case histories; legal aspects. Prerequisite: MIN E 423 or consent of instructor. (★3)

MIN E 518 Coal Mining Methods
□3.0 (either term,3-0-0). Technical considerations of factors which affect and constrain choice of mining methods. Engineering design of the elements of mine structures. Mining methods for flat, gently dipping, pitching and steep deposits, with reference to seam thickness. Categories include coal getting, natural and artificial support, mechanization, coal recovery and conservation. Prerequisite: MIN E 514 or consent of instructor. (★3)

MIN E 519 Coal Mining and Processing
□3.8 (second term,3-0-3/2). Nature of coal deposits; physical and chemical properties; exploration and evaluation; mining, coal processing and conversion; economics and utilization. (This course is intended for senior students in Mining, Metallurgical and Petroleum Engineering and Geology.) (★3)

MIN E 528 Mining Field Trip
□0 0. An extended trip to visit mining and metallurgical plants is made every second year by Third- and Fourth-Year Mining, Mineral Process and Metallurgy students accompanied by staff. Fourth-Year students in Mining and Mineral Process Engineering may also be required to make several part-day trips during the session to mining, metallurgical and other industrial plants near Edmonton. Prerequisite: MIN E 395. (★0)

MIN E 529 Mining Seminar
□1.0 (second term,1-0-0). Meetings of student and staff for discussion of topics related to mining engineering. (★1)

MIN E 555 Special Topics in Mining Engineering
□3.0 (either term,3-0-0). Research studies and/or projects dealing with selected metal, nonmetal and coal mining subjects. Suitable subjects are chosen in consultation with a mining engineering faculty member. Typical study categories are reserve evaluation, surface and underground mining methods and operations, mine planning, computer simulation of mining operations, mineral processing, ventilation, regulations, mine safety, feasibility studies, economics and management. Prerequisite: Consent of instructor (★3)

84.8.3 Mining, Metallurgical and Petroleum Engineering

MMP E 392 Using Technology to Create Resource Enterprises
□3.0 (first term,3-0-0). An introduction to mining, metallurgical and petroleum engineering based on lectures that explain how professional knowledge and expertise in the many technologies that comprise each of these engineering fields are used to create and maintain business enterprises. Exploration techniques to find mineral and petroleum deposits. Unit operations for hardrock and coal mining, petroleum and natural gas recovery. Selection of mining and petroleum production methods to maximize recovery and profitability. Processing and refining of metal, nonmetal and hydrocarbon raw materials. Determining economic feasibility and return on capital investment. Prerequisite: Completion of the first two terms of engineering, science or business. (★3)

MMP E 422 Rock Structures and Intact Rock Properties
□3.5 (second term,3-1s-0). Rock texture and fabric; compaction, fracture and deformation properties, effect of environment and time, strength theories. State of stress in the Earth's crust and its measurement. Formation, geometry and classification of depositional, diastrophic and non-diastrophic structures including bedding, jointing, faulting, folding, cleavage. Representation of structures on maps and stereographic projections. Prerequisite: CIV E 360 or consent of instructor. (★3)

MMP E 490 Introduction to Process Simulation
□3.5 (first term,3-1s-0). Simulation methods are developed and applied to systems. Topics include probabilistic, deterministic, and numerical simulations of physical processes commonly encountered in mining, metallurgical, and petroleum engineering. Prerequisite: A course in FORTRAN programming. (★3)

MMP E 508 Environmental Aspects of Resource Operations
□3.0 (second term,3-0-0). Environmental impacts of mining, mineral processing, and extractive metallurgical operations. Abatement technology. Public response and environmental legislation. Safe disposal of wastes from resource industries. Land reclamation and revegetation methods. Case studies of typical Canadian resource industries. Prerequisite: MET E 431 or consent of instructor. (★3)

MMP E 597 Operations Research
□3.5 (first term,3-1s-0). Simulation, linear programming; network analysis; dynamic programming. (★3)

MMP E 599 Undergraduate Seminar
□1.0 (first term,1-0-0). Special lectures and discussions on topics in engineering. (★1)

84.8.4 Petroleum Engineering

PET E 395 Introduction to Fundamental Petroleum Engineering
□3.8 (second term,3-0-3/2). The relationships of geology, basic reservoir rock properties, surface and interfacial phenomena, the flow of fluids through porous media, classification of oil and natural gas reservoirs, and introduction to reserve estimation principles. Prerequisite: MMP E 392, or consent of instructor. (★3)

PET E 462 Petroleum Reservoir Fluids
□3.8 (first term,3-0-3/2). Origin, accumulation, composition, nature and behaviour of petroleum reservoir fluids. Prerequisite: CHEM 271 or CH E 324, or consent of instructor. (★3)

PET E 464 Oil Well Drilling and Completion
□3.5 (first term,3-1s-0). Elements of rock mechanics, drilling fluids, factors affecting rate of penetration, formulation evaluation and well completions. Prerequisite: CIV E 360 and either CHEM 271 or CH E 324, or consent of instructor. (★3)

PET E 466 Petroleum Production Operations
□3.0 (second term,3-0-0). Types and characteristics of well completions, elementary theory of reservoir flow, flow through conduits, flow measurement and control, artificial lift, fluid separation treatment and disposal, design of gathering lines and production facilities, well-testing simulation and recompletion, reserves estimation and decline curve analysis. Prerequisite: PET E 462 and 464. (★3)

PET E 468 Fundamentals of Well Test Analysis
□3.8 (second term,3-0-3/2). A basic course in well test design and interpretation. Analysis methods for pressure drawdown, buildup, and interference tests. Principle of superposition and its application in well test analysis. Average reservoir pressure estimation. Effect of wellbore conditions on pressure behavior. An introduction to drill stem testing and gas well testing. Prerequisite: PET E 395 or consent of instructor. (★3)

PET E 564 Well Logging and Formation Evaluation
□3.5 (first term,3-1s-0). Theory and engineering applications of measurements of physical properties of the formation near the well bore; interpretation and use of the information in reservoir engineering. Prerequisite: PET E 462, or consent of instructor. (★3)

PET E 568 Heavy Oil Recovery
□3.0 (first term,3-0-0). The objectives of this course are to introduce the student to the current heavy oil recovery technology, and to develop the practical project design techniques. Emphasis will be on thermal methods, although nonthermal methods will be covered briefly. This is designed to be suitable for both undergraduate and graduate students. Prerequisite or corequisite: PET E 573. (★3)

PET E 573 Fundamental Reservoir Engineering
□3.8 (first term,3-0-3/2). Rock properties, rock-fluid interaction, flow through porous media; material balance. Prerequisite: PET E 462 or consent of instructor. (★3)

PET E 575 Applied Reservoir Engineering
□3.8 (second term,3-0-3/2). Analysis and prediction of reservoir performance by use of material balance. Reservoir performance by use of decline curves. Fluid displacement, pressure maintenance and enhanced recovery. Prerequisite: PET E 573. (★3)

PET E 577 Modelling in Petroleum Engineering
□3.0 (second term,3-0-0). Fundamentals of Modelling in Petroleum Engineering. Simulation methods as applied to specific problems in petroleum reservoir behavior. Examples will be drawn from primary, secondary and tertiary recovery phases of petroleum production. Prerequisite: PET E 573, ENCMP 100 and MATH 200 or equivalent. (★3)

PET E 584 Oil and Gas Property Evaluation
□3.5 (first term,2-0-3). An economic and property evaluation in petroleum engineering involving exploration, drilling, production and development fundamentals and field case histories, Canadian oil and gas regulations, unitization and equalization of investment. (★3)

PET E 588 Petroleum Field Trip
□0.0 Students in their fifth and sixth terms will be required to make several trips to selected field installations, laboratories and industrial plants. (★0)

PET E 589 Petroleum Seminar
□1.0 (second term,1-0-0). Meeting of students and staff for discussion of topics related to petroleum engineering. (★1)

PET E 596 Petroleum Engineering Design Project
□4.0 (either term,1-6s-0). Designed to deal with special case studies in the Mining and Petroleum industries; an analysis of reserves; the prediction of production and operating procedures related to the project; the application of economics in the analysis of profitability; economics and planning as tools for a management position. Prerequisite: PET E 584 or consent of instructor. (★3)

84.9 Agricultural Engineering

AG EN 301 Environmental Control of Agricultural Buildings
□4.5 (first term,3-0-3). Environmental requirements as determined by physiological principles. Environmental control. Prerequisite: CH E 324. (★3)

AG EN 313 Soil and Water Engineering
□4.0 (first term,3-0-2). Basic principles of agricultural hydrology, water resource development, irrigation and drainage. Note: Not open to students with credit in AG EN 308. (★3)

AG EN 413 Irrigation and Drainage Engineering
□4.5 (second term,3-0-3). Irrigation and drainage principles; planning and design of irrigation and drainage systems. Prerequisite: MEC E 431 or CIV E 430. (★3)

AG EN 420 Mathematical Programming in Agriculture and Forestry
□4.5 (first term,3-0-3). Mathematical programming methods applied to the analysis of production systems in agriculture and forestry. Prerequisite: AG EC 316 or MATH 120 or MATH 200. (★3)

AG EN 421 Simulation Methods in Agricultural Engineering
□4.5 (second term,3-0-3). Continuous and discrete simulation methods applied to the study of agricultural processes. Prerequisite: Introductory courses in Computing Science and Calculus. Not open to students with credit in FOREN 421. (★3)

AG EN 430 Structural Design of Agricultural Buildings
□4.5 (second term,3-0-3). Principles of structural design as related to the use of timber, steel and concrete in agricultural buildings. Prerequisite: CIV E 360. (★3)

AG EN 453 Power Units
□4.5 (first term,3-0-3). Energy conversion, power transmission, soil vehicle mechanics, hydraulic systems, tractor performance and evaluation, tractor dynamics. Prerequisite: MEC E 431 or CIV E 430. (★3)

AG EN 454 Agricultural Machinery
□4.5 (second term,3-0-3). The course uses the wedge theory and the Mohr-Coulomb failure criteria as a basis for a simple tillage theory. Various tillage tools are examined as well as implement and tractor chassis mechanics. An introduction to harvesting processes is made. Particle dynamics and mechanics of raking and cutting are developed. Harvesting systems are noted. Prerequisite: MEC E 350, CIV E 480. (★3)

AG EN 456 Post-Harvest Technology
□4.5 (first term,3-0-3). This course is an analysis of forage conditioning, fractionation, wafering, preservation and ensiling; grain and forage dehydration, feeding and transport equipment, storage regimes, process control; and grain cleaning, sorting and milling. Prerequisite: MATH 113. (★3)

AG EN 500 Agricultural Engineering Field Trip
□0.0 An extended trip to visit agricultural engineering operations is required of all agricultural engineering students. Normally conducted for third and fourth-year students in September of even numbered years prior to start of classes. (★0)

AG EN 503 Instrumentation in Agricultural Engineering
□4.5 (second term,3-0-3). A study of the primary sensing elements used in agricultural engineering, their principles of operation and application. An introduction to signal conditioning and the use of digital techniques in instrumentation. Prerequisite: E E 405. (★3)

AG EN 510 Agricultural Engineering Project
□3.0 (either term,1-0-4). Each final year student in the BSc (Agr Eng) program works independently on a project approved by the Coordinator. The project must be either a literature review or an engineering design problem or an experimental research project or a combination of any of these. Both a brief outline and a formal report must be submitted by the due dates. (★3)

AG EN 552 Advanced Irrigation and Drainage
□3.5 (either term,3-1s-0). Studies of selected topics or special problems in irrigation and drainage. Prerequisite: AG EN 411 or AG EN 413. (★3)

84.10 Courses from other Faculties

84.10.1 Science

Chemistry

CHEM 103 Introductory University Chemistry I
□4.3 (either term,3-1s-3/2). Stoichiometry, ideal gases, calorimetry, chemical energy, Hess' Law, chemical equilibrium, acids and bases, bonding. Prerequisite: Chemistry 30 or equivalent. (★3)

CHEM 105 Introductory University Chemistry II
□3.8 (second term,3-0-3/2). Solubility products, oxidation-reduction, electrochemical cells and the Nernst equation, coordination chemistry, chemical kinetics, bonding. Prerequisite: CHEM 103. (★3)

CHEM 261 Organic Chemistry
□4.5 (first term,3-0-3). The study of organic structures and reactions. Nomenclature, hydrocarbons and organic compounds of industrial interest. Students intending to take CHEM 261 and CHEM 263 in the same academic year are recommended to register in CHEM 260. Prerequisite: CHEM 103 and 105. (★3)

CHEM 263 Organic Chemistry
□4.5 (second term,3-0-3). The study of organic chemistry, stereochemistry, aromatic hydrocarbons, polymers and peptides. Prerequisite: CHEM 261. (★3)

CHEM 271 Chemical Thermodynamics
□4.5 (first term,3-0-3). Introduction to the first and second laws of thermodynamics, with applications to systems with chemical change. Gibbs free energy and equilibrium in multi-phase, multi-component systems; Clapeyron equation and phase equilibria; properties of solutions. Raoult's and Henry's Laws; azeotropes, eutectics; applications to ideal and nonideal systems. Students intending to take CHEM 271 and CHEM 273 in the same academic year are recommended to register in CHEM 270. Note: This course makes substantial use of calculus. Students with grades below 5 in MATH 101 may experience difficulty. Prerequisite: CHEM 103/105 and MATH 100/101. (★3)

CHEM 273 Physical Chemistry
□4.5 (second term,3-0-3). Chemical potential and the theory of chemical equilibrium; theory of real gases and other nonideal systems; activity and standard states. Electrochemical cells and chemical potential, Kinetic theory of gases, Maxwell-Boltzmann distribution, transport properties. Thermodynamics of surfaces; adsorption, surface tension. Simple theories of chemical kinetics and reaction mechanisms; catalysis. Prerequisite: CHEM 271. (★3)

CHEM 311 Instrumental Analysis for Engineers
□4.5 (second term,3-0-3). Fundamentals of volumetric, chromatographic, spectrographic, and electrochemical analysis. Volumetric techniques are covered in some detail. Instrumental techniques discussed include gas and liquid chromatography, UV and IR spectroscopy, ion-selective electrodes and voltammetry. Emphasis is on the principles of each method, and the nature of matrix and other effects that influence the quality of the data obtained. Reference will be made to applications such as air and water quality, and process analyzers in manufacturing. Prerequisite: CHEM 103/105, CHEM 271. (★3)

Mathematics

MATH 100 Calculus I
□3.5 (either term,3-0-1). Coordinates, geometry of lines and planes. Functions, limits, continuity, derivatives and applications. Integration and applications. Prerequisite: Mathematics 30. Note: This course may not be taken for credit if credit has already been obtained in MATH 113, 114, or 117. Note: students in all sections of this course will write a common final examination. (★3)

MATH 101 Calculus II
□4.5 (either term,4-0-1). Applications of integration to lengths, areas, volumes and masses. Transcendental functions. Methods of integration, polar coordinates, parametric equations. Vectors, vector functions and derivatives. Prerequisite: MATH 100 or equivalent. Note: Students in all sections of this course will write a common final examination. Note: This course may not be taken for credit if credit has already been obtained in either MATH 115 or 118. (★3)

MATH 200 Linear Algebra and Infinite Series
□3.0 (either term,3-0-0). Review of elementary vector operations. Linear transformations, matrices and matrix operations. Eigenvalues and eigenvectors. Infinite Series, examples. Prerequisite: MATH 101 or equivalent. Note: Students in all sections of this course will write a common final examination. (★3)

MATH 201 Differential Equations I
□3.5 (either term,3-0-1). First order linear and nonlinear equations. Linear differential equations with constant coefficients. Laplace Transforms, applications, Picard's Method. Series solutions. Prerequisite: MATH 101 or equivalent. Prerequisite or corequisite: MATH 200.
Note:
(1) Open only to Engineering and Agricultural Engineering students and Science students in the following programs: Specialization Physics, Specialization Geophysics, Specialization Computer Science (Computer Design Stream), Specialization Computer Science (Scientific Computing Stream) or Specialization Geography (Meteorology).
(2) This course may not be taken for credit if credit has already been obtained in any of MATH 205, 334 or 336.
(3) Students in all sections of this course will write a common final exmination.
(★3)

MATH 205 Linear Algebra and Differential Equations I
□4.0 (first term,4-0-0). Systems of linear algebraic equations. Matrices. Determinants. Differential equations of first order. Linear differential equations. Linear equations with constant coefficients. The Laplace transform. Prerequisite: MATH 101 or equivalent.
Note:
(1) Open only to Engineering and Specialization Geography (Survey Science, Meteorology) students.
(2) This course may not be taken for credit if credit has already been obtained in any of MATH 201, 334 or 336.
(★4)

MATH 206 Linear Algebra and Differential Equations II
□4.0 (second term,4-0-0). General vector spaces. Eigenvalues and eigenvectors. Systems of linear differential equations. Infinite series. Series solutions of linear differential equations. Prerequisite: MATH 205 or equivalent. Note: Open only to Engineering and Specialization Geography (Survey Science, Meteorology) students. (★4)

MATH 209 Calculus III
□3.5 (either term,3-0-1). Partial differentiation, derivatives of integrals. Multiple integration using rectangular, cylindrical and spherical coordinates. Vector Field Theory. Prerequisite: MATH 101 or equivalent. Note: students in all sections of this course will write a common final examination. (★3)

MATH 300 Advanced Calculus I
□3.0 (either term,3-0-0). Review of ordinary differential equations. Boundary value problems, applications. Orthogonality, completeness and Fourier series. Solution of Laplace, heat and wave equations by Fourier series, transforms. Numerical methods. Prerequisite: MATH 200, 201, and 209 or equivalent. Note: (1) Open only to students in Engineering, Specialization Computing Science (Computer Design or Scientific Applications Stream), Specialization Physics and Specialization Geophysics. (2) This course may not be taken for credit if credit has already been obtained in MATH 437. (★3)

MATH 301 Advanced Calculus II
□3.0 (second term,3-0-0). Series solutions of ordinary differential equations. Bessel, Legendre and Hermite equations. Vibrating membranes, heat flow in solids, gravitational potential. Transform methods. Additional topics may be added at the request of the students. Prerequisite: MATH 300 or equivalent. (★3)

MATH 311 Theory of Functions of a Complex Variable
□(either term,3-0-0). Complex numbers. Complex series. Functions of a complex variable. Cauchy's theorem and contour integration. Conformal mappings. Schwartz-Christoffel transformation. Inverse Laplace transforms. Note: This course is intended for Engineering students. Prerequisite or corequisite: MATH 209 or 215. (★3)

Physics

PHYS 131 Mechanics
□3.8 (either term,3-0-3/2). Kinematics; particle dynamics; work and energy; linear momentum; torque and angular momentum; gravitation. Prerequisite: Mathematics 30, Physics 30. Corequisite: MATH 100. (★3)

PHYS 137 Wave Motion and Electricity
□3.8 (either term,3-0-3/2). Oscillations; wave motion; sound waves; electric charge; electric field; electric potential; Gauss's law; capacitance; electric currents; electromotive forces and DC circuits. Prerequisite: PHYS 131. (★3)

PHYS 238 Electromagnetism and Optics
□3.8 (either term,3-0-3/2). Magnetic field; Ampere's Law; Faraday's Law; inductance; magnetic properties of materials; geometrical optics; interference; diffraction. Prerequisite: PHYS 137 or 143. (★3)

PHYS 292 Physics Laboratory A
□3.0 (either term,0-0-3). Experiments in mechanics, electromagnetism and atomic physics. Prerequisite or corequisite: PHYS 285. (★3)

PHYS 409 Statistical Physics for Engineers
□3.0 (first term,3-0-0). Quantum states, temperature, entropy, chemical potential, Boltzmann factor, fermions and bosons, kinetic theory of gases, Fermi-Dirac distributions and electrons in metals, Bose-Einstein distributions and photons, Debye theory of photons. Bose-Einstein condensation. Prerequisite: PHYS 238. (★3)

84.10.2 Arts

English

ENGL 199 Essentials of Writing for Engineering Students
□3.0 (either term,3-0-0). This course is designed to develop the student's ability to write the narrative, descriptive, expository, and persuasive prose fundamental to all written communication. Instruction and practice will be integrated with the study of prose models drawn from modern essayists. A review of basic grammar will be included. Note: Restricted to students in the Faculty of Engineering only. (★3)

Sociology

SOC 366 People in Industry
□3.0 (either term,3-0-0). Introduction to the sociological analysis of the attitudes and behavior of employees in work organizations, with emphasis on the contemporary Canadian situation. Note: Restricted to Engineering students only. (★3)

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Home Economics

Faculty of Home Economics

91 Introductory

91.1 Members of the Faculty

Dean
EC Murray, PhD

Associate Dean (Undergraduate Academic Affairs)
M Cox-Bishop, EdD
C Landry, Administrative Assistant (Admissions and Student Affairs)

Assistant to the Dean
L Prud'homme, BA

91.1.1 Clothing and Textiles

Professor and Chair
N Kerr, PhD (Textile Conservation, Cellulose Chemistry)

Professors
B Crown, PhD (Consumer Behavior, Textile Serviceability and Flammability)
A Lambert, MA (Clothing and Textile History, Conservation, Museology)
E Richards, MS (Geo-Textiles, Textile Conservation)

Associate Professors
G Bachynski, MSc (Apparel Design, Merchandising)
M Cox-Bishop, MFA, EdD (Cultural Aspects of Textiles, Design)

Assistant Professors
S Niessen, PhD (Social-Cultural Anthropology, Indonesia Art, Ethnographic Textiles)
J Oakes, PhD (Historic Costume, Native Dress)

Honorary Professor
V Lefebvre, PhD (Secondary Education)

Professors Emeriti
A Kernaleguen, PhD
T Dennis, MSc

91.1.2 Family Studies

Professor and Acting Chair
N Keating, PhD (Social Gerontology, Women and Work, Family Support)

Professors
D Kieren, PhD (Family Problem Solving, Dual Careers, Family Life/Sexuality Education, Programming and Evaluation)
J Montgomery, PhD (Family Crisis, Developing Relationships, Theory)
E Murray, PhD (Impact of Development Process on Women and Families, Reconceptualizing Home Economics Curricula to Address Contemporary Socio-Cultural and Economic Realities)

Assistant Professors
J Fast, PhD (Family Resource Management, Consumer Studies, Consumer Economics)
C Morgaine, PhD (Child Development, Family-Life Education, Critical Theory Development)
B Munro, PhD (Methods and Measurement, Farm Families, Parenting and Marriage Relationships)
B Skrypnek, PhD (Family Violence, Parent-Child Interaction, Program Planning and Evaluation)

91.1.3 Foods and Nutrition

Professor and Chair
Z Hawrysh, PhD (Food Quality (Sensory and Objective Evaluations of Food Quality, Special Diet Foods, Taste Perception))

Professors
T Basu, PhD (Nutritional Biochemistry)
MT Clandinin, PhD (Nutritional Biochemistry)
M Gee, MSc (Clinical Nutrition)
ME Stiles, PhD (Food Microbiology)

Associate Professor
EL LeBlanc, PhD (Food Quality, Objective/Sensory Evaluations)

Assistant Professors
ML Garg, PhD (Nutritional Biochemistry)
M McBurney, PhD (Human Nutrition, GI Function)
F Temelli, PhD (Food Quality, Physical/Chemical)

Professors Emeriti
E Donald, PhD
R Renner, PhD

91.1.4 Additional Members of Faculty Council

President and Vice-Chancellor
P Davenport, PhD

Professors
D Hadziyev, PhD (Food Science)
G Jarvis, PhD (Sociology)
KR Kopecky, PhD (Chemistry)
V Lefebvre, Phd (Secondary Education)

Representatives
E Meakin, Alberta Registered Dietitians Association
B Purves, Office of the Registrar
M Cox, Alberta Home Economics Association

Registrar of the University
BJ Silzer, MEd

Student Representatives
(Graduate Student)
(Undergraduate Student)

91.2 General Information

Home Economics is a study of the laws, conditions, principles, and ideals concerned with people's immediate physical environment and their nature as social beings. It deals especially with the relationship between the two for the purpose of improving the quality of people's daily lives. Consumer orientation, family dynamics and daily living patterns are common themes running through all programs and courses. Programs are offered at bachelors and masters degree levels. PhD programs are available in selected areas of specialization.

91.2.1 Undergraduate Programs in Home Economics

The Faculty divides the field of home economics into three areas and offers a four year undergraduate program in each one. All programs are flexible and contain sufficient options to permit tailoring the program for personal interests and career goals.

The **Clothing and Textiles program** covers aspects of clothing, textiles and housing. The social sciences, physical sciences and humanities are applied to the study of people's most personal environment - their clothing and shelter. Through choice of suitable options, the program can be designed for a broad university education or as preparation for careers in merchandising, teaching, extension, textile science, textile or apparel design, textile conservation, or consumer affairs.

Students interested in merchandising and/or retailing may choose the textile and apparel merchandising specialization, selecting options from the Faculty of Business. Due to both limitations in the number of practicum placements for this specialization and limitations on enrollments in courses, the Department will limit the number of students taking the merchandising specialization upon entering third year.

Students who select the history/conservation specialization may choose options in art, history and anthropology. For a specialization in textile science, a student may choose courses in physics, chemistry and mathematics. A student with an interest in design may select courses in fine arts, while those with an interest in housing may select options from sociology, family studies, economics and other related areas. Students who wish to specialize in consumer studies should select courses in family studies, economics, marketing, and communications.

Students wishing to pursue a career in the apparel industry may choose to spend one term in the third or fourth year of their program at the University of Manitoba. Students choosing this plan should consult the Associate Dean to ensure that courses are chosen for which credit will be transferred.

Details of the Clothing and Textiles program may be found in §93.1.1.

The **Family Studies program** provides an interdisciplinary study of the historical, contemporary and emerging family forms through formal course work and interaction with individuals and families. Field experiences are an integral part of the program. Each student is placed in a field experience with an agency in the final year of study. Through this experience the student has an opportunity to develop skills in interacting with individuals and groups and to learn how to adapt knowledge to the needs of the community.

The increasing need for support services for individuals and families suggests a growing demand for personnel trained to deal with personal and interpersonal problems. Interdisciplinary social welfare teams, recreational agencies, financial counselling groups, senior citizen groups, and agricultural extension agencies are a few of the potential employers of graduates of this program.

Two routes of Family Studies are possible. The first is a General Home Economics Route which focuses attention on all three areas of Home Economics: Family Studies, Clothing and Textiles, and Foods and Nutrition. Chemistry 160 is a necessary prerequisite to elect this route. Students desiring careers in agricultural extension, the consumer field or teaching should plan their program on these general principles. The second is a General Family Studies Route. This route is advised for students desiring greater depth in the study of the nature of the family and/or family interaction and the application of this knowledge. Biology 100 and another half option in biology or zoology are necessary prerequisites. This route is especially relevant for students desiring careers in family related social service agencies.

Students in the Family Studies program are advised to obtain counselling early in their program of study to plan appropriate choices of basic science courses and options.

Postgraduate study may be undertaken at this or other universities; interested students should consult the faculty's staff members and should also refer to §93.4.

Details of the Family Studies program may be found in §93.1.2.

The **Foods and Nutrition Program** includes study of: the application of scientific principles in understanding the nutritional value of foods; the utilization, functions and interrelationships of nutrients in health and disease; the chemical, physical and sensory properties of food; the safety and quality of foods and their social and psychological significance. Optional courses chosen from the arts provide a broader education, while optional courses in other areas allow the student to plan a program to meet specific interests and career goals.

The program is suitable for students planning to become dietitians, nutritionists, home economists in the food industry, home economists or foods and/or nutrition specialists in provincial departments of agriculture and in consumer work. Students interested in dietetics should refer to the section below entitled: *Adapting the Foods and Nutrition Program for Dietetics and Training.* Students interested in the other careers may choose a variety of courses as options; early in their programs (not later than the end of the first year) they should consult the faculty's staff members for guidance in selecting suitable options.

The study of foods and nutrition may be continued at post-graduate level in this and other universities. Excellent opportunities are open to the holders of the master's or doctoral degrees. Interested students should consult the faculty's staff members for guidance in suitably designing their undergraduate programs; they should also refer to §93.4.

Details of the Foods and Nutrition program may be found in §93.1.3.

Students interested in broadening their study to embrace all areas of home economics should read the material below, under the heading: *Adapting the Three Programs for Generalized Study or for a Career in Teaching.*

Adapting the Foods and Nutrition Program for Dietetics Training

The Foods and Nutrition program provides an opportunity to prepare for a professional career in Dietetics; the interested student will find guidance in §93.1.3 - Note B.

To qualify as a professional dietitian a graduate must spend twelve months in an internship approved by the Canadian Dietetic Association. The Canadian Dietetic Association recognizes that there are four kinds of dietitians: the Clinical Dietitian, the Community Dietitian, the Administrative Dietitian, and the Generalist (who has duties related to both the Clinical and the Food Service Administration areas). Internships to meet the needs of these four kinds of dietitians are now being offered in Canada; however, the number of specialized internships in Community Nutrition, Clinical Dietetics and Administration is still limited. Further information about internships can be obtained by inquiring at the general office of the Faculty of Home Economics. Interested students should make inquiries early in their careers.

The Foods and Nutrition program offered by the Faculty of Home Economics emphasizes Clinical dietetics and General dietetics. Until more Clinical internships are started, graduates may qualify by completing the Generalist internship for which they can prepare by appropriate selection of options (see §93.1.3 - Note A).

Early in the program, students interested in dietetics should refer to the document entitled Academic Requirements for Membership in the Canadian Dietetic Association June 1972. Copies are available in Room 110, Home Economics Building.

Note: There is a $150 fee for internship for students in the Food and Nutrition Dietetics Program.

Adapting the Three Programs for Generalized Study of Home Economics, or for a Career in Teaching

It is possible to adapt all three programs for **generalized** study of home economics. Students who do not wish to concentrate on one area exclusively, but would rather acquire a general knowledge of the entire field or prepare themselves to fill positions as home economists in the extension service of provincial departments of agriculture or utility companies, may do so by enrolling in any one of the programs and selecting some optional courses from the other two departments. Graduates with a generalized program of this sort can also prepare for a career in teaching home economics. Any student wishing to enroll in the BEd After Degree program must have the Home Economics course requirements before entering the program (see §75.2 for a list of the required courses). For a description of the Bachelor of Education degree program with specialization in Home Economics, see §74.3.2. Students interested in generalizing their programs should seek advice as soon as possible upon enrolling in the Faculty of Home Economics since careful selection of options should commence early.

91.2.2 Transfer from Other Postsecondary Institutions

The first year of the Faculty's programs may be taken at the University of Calgary, the University of Lethbridge, Camrose Lutheran University College or one of the following Junior Colleges: Red Deer Regional, Grande Prairie Regional, Medicine Hat, Concordia and Canadian Union Colleges (see the appropriate university or college calendar).

Applications for transfer from other postsecondary institutions will be evaluated individually.

92 Faculty Regulations

92.1 Admission

(1) The admission requirements of the Faculty are set out in §§13.2 and 13.4.7 of the University Regulations and Information for Students section of this Calendar.

(2) **English Language Proficiency**

English is the primary language of instruction in all faculties except Faculté Saint-Jean, where French is the primary language. Therefore, all applicants to undergraduate faculties other than Faculté Saint-Jean must possess an adequate knowledge of written and spoken English as a prerequisite to admission. For example, non-matriculated applicants and unclassified program students must comply with the requirement along with other applicants.

Applicants to Faculté Saint-Jean need not demonstrate proficiency in English prior to admission being granted. However, they must demonstrate proficiency in English before they may be granted a degree from this institution.

Regardless of country of origin or citizenship status, all applicants except for Faculté Saint-Jean will be required to demonstrate proficiency in the English language prior to admission. This demonstration may take any one of several forms.

a. Six full years of education in English in Canada or the equivalent in another country where English is the principal language. Such education must include the Alberta Grade 12 or equivalent level and can be in a combination of secondary and postsecondary training.

b. Successful completion of the equivalent of six years of full-time instruction in a school/institution in Alberta in which the major language of instruction is other than English, but where the level of English proficiency required for graduation is equivalent to that in English language schools/institutions in Canada.

c. A grade of 80% or better on the diploma examination portion (only) of the Alberta English 30 course or a grade of 6 or 7 on the International Baccalaureate Higher Level English course or a score of 5 on the Advanced Placement English course.

d. Graduation from a degree program offered by an accredited university at which English is the primary language of instruction and in a country where English is the principal language.

e. A score of at least 580 on the Test of English as a Foreign Language (TOEFL) or a score of at least 90 on the Michigan English Language Assessment Battery (MELAB). The TOEFL results must include a score of at least 50 on each of the three components.

Note A: Authority to hear petitions and to waive the requirement for undergraduate applicants to write the TOEFL resides with the Registrar, acting on behalf of the Faculties. Exemptions will be based on assessments of the applicant's English language proficiency as evidenced by a written petition and a personal interview. Please direct enquiries and petitions to the Associate Registrar (Admissions), Office of the Registrar.

Note B: Further information on TOEFL and TSE is available from the Examination and Timetabling Division, Office of the Registrar, Room 120 Administration Building. TOEFL application forms are available from the Student Access Centre, Office of the Registrar, Main Floor, Administration Building or by writing directly to Educational Testing Service, Princeton, New Jersey, USA, 08540.

f. Test of Spoken English

In addition to the English Language requirements set out in §13.2.2, the Faculty of Home Economics also requires that beginning in September 1992 all applicants who are required to submit the results of the TOEFL must also submit the results of the Test of Spoken English (TSE) with a minimum score of 200. For further information contact the Examinations and Timetabling Division, Office of the Registrar, 120 Administration Building.

(3) **Admission With Advanced Standing**

a. Students transferring into any BSc (HEc) degree program must meet all curriculum requirements of the program of their choice.

b. Normally, a maximum of 60 units of course weight or equivalents may be granted for work completed at other institutions.

c. Students who have completed more than two years of a Home Economics bachelor's degree program at another university are advised to seek permission from their university to attend the University of Alberta as a Visiting Student (refer to §12.2.2(5) of this University Calendar) rather than apply for admission into one of the programs offered by the Faculty of Home Economics.

(4) **Admission Policy for Non-Matriculated Applicants**: See §13.8 for full details on general admission requirements for non-matriculated applicants.

(5) **Students from Commonwealth Countries:** Applicants from Commonwealth countries require credit in five GCE exams: two at the A-level and three at the O-level; two of the exams should be Chemistry and English.

92.2 Residence Requirements

(1) A student proceeding towards a first degree must complete a minimum of 60 units of course weight at the University of Alberta. At least 30 of these 60 units of course weight must be taken in the Faculty of Home Economics.

(2) A student proceeding towards a first degree must attend at least two consecutive terms of a Winter Session in the Faculty of Home Economics and must be registered as a full time student in each of the terms.

(3) The final year of a degree program must normally be taken in attendance at the University of Alberta.

92.3 Academic Standing and Graduation

(1) Students have the responsibility to familiarize themselves with all regulations needed to meet the requirements for the BSc (HEc) degree. These regulations are described below. Students should also be familiar with the University Regulations and Information for Students section of the Calendar.

(2) A student who interrupts a degree program and returns after an absence of two calendar years will be required to comply with any new regulations regarding program and graduation requirements. If the absence has been of more than five years duration, the student may be required to take placement tests.

(3) **Categories of Academic Standing:** There are three categories of academic standing, designated as categories (A), (B), and (C). At the end of each Winter Session, a category is determined for each student in the Faculty by the computation of a Quality Index. The Quality Index (QI) is defined by the following formula:

$$QI = \frac{\text{sum of units of course weight passed}}{\text{sum of units of course weight attempted}} \times \text{GPA}$$

In the above formula, GPA (Grade Point Average) is the sum of the products of all grades and their respective units of course weight divided by the sum of those weights.

The categories of standing are as follows:

Category A: Students with a QI of 4.0 or greater. Performance in this area is considered satisfactory.
Category B: Students with a QI of less than 4.0 but greater than 2.0. Performance in this QI range is considered to be "unsatisfactory".
Category C: Students with a QI of 2.0 or less. Performance at this level is considered to be "extremely unsatisfactory".

Category A: A student who is not in the graduating year and is in Category A (i.e., a Quality Index of at least 4.0 is attained) is eligible for promotion. Reexaminations are allowed only if all requirements for reexaminations (see (4) below) are met. Credit is denied for any course where a grade of 3 or less is obtained.

Category B: A student in this category will be permitted to continue. Individual rulings will be made with regard to the requirement to repeat courses which were taken and failed. Reexaminations are allowed only if all requirements for reexaminations (see (4) below) are met.

The student may be advised that there may be danger of failing to meet the requirements for promotion and graduation. The student may also be advised to consult Student Counselling Services in respect to academic plans. A warning will also be given that a repetition of unsatisfactory performance (Category "B") could result in the requirement to withdraw from the program. In such circumstances regulations applied for readmission will be similar for the student who is in Category C (see below).

Category C: A student in Category "C" at the end of the Winter Session will be required to withdraw from the Faculty of Home Economics. Other regulations which apply to this student are: ineligibility for reexamination in the failing year; retention of credit in all courses for which a grade of 5 or higher was received in the failing year.

Normally, the student's request for readmission will be considered only after a minimum of a year has elapsed since the requirement to withdraw. The student must write a letter to the Dean including a statement of intent to seek readmission and also an explanation of what will be done to overcome previous difficulties. This letter must be received by May 15 of the year in which readmission is sought.

If readmitted, the student will be placed on probation. The student will normally be required to repeat the failed year; be required to take a full course load (30 units of course weight) in the Winter Session, pass all courses and obtain a minimum GPA of 5.0 before reexamination.

The regulations described above will be applied qually to a student with an extremely unsatisfactory anding in another Faculty at the University of Alberta, r at another postsecondary institution who is applying or admission into the Faculty of Home Economics.

i) **Reexaminations**

a. An undergraduate student in the Faculty of Home Economics will be permitted a reexamination provided that:
   1) the weight of the final exam is 40% or greater.
   2) the grade in the course was at least a 3; or the grade in the course was greater than 4, and there is a difference of 3 or greater between the grade in the course and the GPA for the academic session in which the course was taken;
   3) the reexamination is for a course taken in the current or most recent Winter session;
   4) the course to be reexamined was a required, not an optional course in the program;

b. If a reexamination is approved the following policies apply:
   1) The reexamination mark replaces the original final examination mark in determining the final grade in the course.
   2) Students are permitted a reexamination in only one course (full or half) during the four-year program.

c. Reexaminations will not normally be allowed in the following instances:
   1) for Intersession courses;
   2) when the student has been required to withdraw because of low GPA/QI;
   3) when repeating a year after being required to withdraw.

d. A student enrolled in another faculty and taking a course offered by the Faculty of Home Economics may be permitted a reexamination provided that:
   1) The weight of the final exam is 40% or greater.
   2) The student's grade in the course was a 3 or higher.
   3) The Dean of the student's faculty and the Chair of the Department offering the course give approval for the reexamination.

e. Students requesting a reexamination must follow the procedures detailed in §16.5.4 of this Calendar.

5) A student will not be permitted to withdraw from or repeat a failed course more than once during the degree program, except for reasons deemed sufficient by the Associate Dean.

6) Thirty units of course weight per year constitute a full course load. The Dean may, in exceptional circumstances, permit a student to accelerate (carry more than a full course load). To accelerate, a student normally must have achieved a GPA of 6.5 or higher on a full course load taken the previous Winter Session. A student planning to take less than a full-course load in a Winter Session must insure that the Faculty's residence requirements are met (see §92.2 above).

7) To be granted a BSc in Home Economics, a student must complete the 120 units of course weight required for the program, present passing grades in all courses, and have a grade-point average (GPA) of at least 5.0 in the last 90 units of course weight taken towards the degree.

8) A student transferring to the University with transfer credit will normally be required to complete at least 60 units of course weight and fulfill the residence requirements of the Faculty (see §92.2 above). Following enrollment in the Faculty, a transfer student requires a GPA of at least 5.0 in those courses taken at the University of Alberta which are credited toward the degree.

9) **Degree with Distinction:**

a. The notation "With Distinction" is awarded to a graduating candidate who has obtained a GPA of 7.5 or higher in the last 60 units of course weight taken for credit towards the degree. A student who has taken part of the work at another university may be granted a degree "With Distinction" at the discretion of the Faculty Council.

b. **First Class Standing:** First Class Standing is awarded to any student carrying a full course load (i.e., 30 units of course weight in the Winter Session), who receives a grade point average of not less than 7.5 in the work of the session.

(10) Awards listed in §223.8 of the Calendar are normally based on a full course load, (i.e., 30 units of course weight in the Winter Session), taken only at this University.

92.4 Changes in Registration

The deadlines for changes in registration are:
First-Term and full-courses: September 11.
Second-Term Courses: January 10.

92.5 Lab Fees

A lab fee of $15.00 per lab is charged for selected courses in each of the three departments, to a maximum fee of $45.00 per academic session. Assessments for both terms are distributed by the Faculty's Accounts Clerk. Students are expected to pay their fees by the date indicated on their assessments. Students with outstanding lab fees after the indicated deadline will be faced with an encumbrance on their student record until such time as the fee is paid. Inquiries regarding lab fees should be directed to the Accounts Clerk in Room 115, Home Economics Building or by telephoning 492-5230.

92.6 Withdrawal from Courses

Deadlines for withdrawal from courses are:
From a half-course offered in the First Term, November 15.
From a full-course, January 10.
From a half-course offered in the Second Term, March 20.

92.7 Appeals and Grievances

The Faculty of Home Economics' Student Academic Appeals Committee hears appeals from students regarding the following matters related to academic standing:

(1) Transfer from one program within the faculty to another;

(2) Continuation in a program;

(3) Graduation.

Students who wish to appeal a decision affecting their academic standing should consult the Associate Dean. Subsequently, the student should direct a written appeal to the Dean by June 1. Students may obtain complete academic appeal regulations from the office of the Associate Dean.

Students who wish to contest the Faculty Appeal Committee decision may be directed to the General Faculties Council (GFC) Academic Appeals Committee (§16.8 of this Calendar).

Appeals regarding the student's grade or standing in a particular course should be directed to the instructor concerned. For reappraisal deadlines refer to §16.5.3(2) of this Calendar.

92.8 Faculty Student Advisory Services

Undergraduate students seeking advice on academic matters should follow these avenues:

(1) **For answers to general career questions about programs** such as course choices, fields of specialization and preparation for graduate study, students should consult with their faculty adviser. A list of faculty advisers is posted outside the General Office in the Home Economics Building.

(2) **For answers to questions regarding Faculty regulations** such as admission, readmission, program requirements, transfer, registration, withdrawal, and graduation requirements, students are directed to the office of the Administrative Assistant in Room 115b, Home Economics Building.

(3) **For students who are encountering special difficulties** or problems related to program planning, unusual difficulties arising from decisions based on Faculty regulations, or problems of an individual nature, the Associate Dean is available for consultation in Room 110 Home Economics Building. Students are required to consult with the Associate Dean before submitting a formal appeal to the Faculty Academic Appeals Committee.

92.9 Examinations

(1) **Unexcused Absence from Final Examinations:** A student with an unexcused absence from a final examination will be given no grade for that examination. The final grade for the course will be calculated by using zero as the raw score for the final examination.

(2) **Excused Absence from Final Examinations:** Refer to §16.5.2 of this Calendar.

(3) **Code of Student Behavior:** Refer to §19.2 of this Calendar.

93 Programs of Study

93.1 The Degree of BSc in Home Economics

93.1.1 Clothing and Textiles

First Year (See Note A)
CL TX 150 (Design in Everyday Living)
CL TX 160 (Clothing and Textiles: A Social Science Perspective)
CHEM 160
ENGL 101
12 units of course weight from Group I (See Note B)

Second Year
CL TX 155 (Introduction to Apparel Design) (Note A)
CL TX 270 (Textile Science I)
H EC 300
One 200-level CL TX option
Two 100- to 300-level CL TX, FAM or FD NU courses
6 units of course weight from Group I (Note B)
Option (6 units of course weight) (Note C)

Third Year (See Note D)
CL TX 271 (Textile Science II)
H EC 359
3 units of course weight in statistics or research methods (Note E)
One Senior CL TX option
Two 300 or 400-level CL TX options (Note C)
Option (6 units of course weight) (Note C)
Senior option other than Home Economics (6 units of course weight) (Note C)

Fourth Year
CL TX 590 (Clothing and Textiles Seminar)
Three 300- to 500-level CL TX courses (Note C)
Three senior options (18 units of course weight) (Note C)

Note A: Students entering the program without Clothing and Textiles 20 will be expected to demonstrate certain competencies in clothing construction before entering CL TX 301. For further information, contact the Chair of the Department of Clothing and Textiles.

Note B: Students should select 18 units of course weight from the following list of Group I options: ANTHR 101, ANTHR 301, ART 131, ART H 101, ART H 102, ART H 274, CHEM 100, CHEM 204, Computing (3 units of course weight), ECON 101, ECON 102, History (3 or 6 units of course weight), Mathematics (3 or 6 units of course weight), Physics (3 or 6 units of course weight), PSYCO 104, PSYCO 105, SOC 100, SOC 101 or 102.

Students planning to follow the Textile and Apparel Merchandising Specialization must select ECON 101 and 102 in the first or second year of the program.

Note C: Students wishing to specialize in textile and apparel merchandising must have selected options from the Faculty of Business approved by the Department of Clothing and Textiles. Such students should select CL TX 266, CL TX 365 and CL TX 595 as Clothing and Textile options.

Note D: All required CL TX courses in first and second year of the program must normally be passed before a student can proceed to third year CL TX courses. Exceptions must be approved by the Associate Dean.

Note E: Acceptable courses include the following: STAT 141; STAT 155; STAT 236; PSYCO 211; SOC 210; (STAT 155 is 6 units of course weight which would meet the requirements for 3 units of course weight in statistics plus a 3 course weight option).

93.1.2 Family Studies

First Year

FAM 110 (Family Development)
CHEM 160; or BIOL 100 and a 3 course weight Jr Biology; or BIOL 100 and a 3 course weight Zoology (see Note A)
PSYCO 104, PSYCO 105
SOC 100 and 101 or 102
ENGL 101
3 course weight option

Second Year

FAM 210 (Beginning Family)
FAM 230 (Family Resource Management)
ECON 101/102
STAT - SOC 210 or STAT 141 or PSYCO 211 or POL S 216
Options - 15 units of course weight

Third Year

H EC 359 (Communication and Presentation)
FAM 310 (Family Communication)
FAM 320 (Development in Infancy and Childhood)
FAM 321 (Development During School Years and Adolescence)
FAM 330 (Family Finance)
FAM 380 (Issues in Family Life Education)
H EC 300
Option - 3 course weight
Senior Options other than Family Studies - 6 units of course weight

Fourth Year

FAM 410 (The Aging Family: Needs and Resources)
FAM 420 (The Aging Individual)
FAM 480 (Methods in Human Service Agencies)
FAM 481 (Practicum in Family Services)
Options - 15 units of course weight

Note A: Those desiring a general Home Economics background require CHEM 160, H EC 300, H EC 359, FAM 110, 230, 310, 430 and FD NU 225, 227, 320, 321 and CL TX 150, 160, 251, 270 and either 203 or 307.

93.1.3 Foods and Nutrition

First Year

GENET 197 (3 units of course weight), ZOOL 120 (3 units of course weight)
CHEM 100
CHEM 160
MICRB 193
Arts Option
Option - 3 units of course weight (see Notes A and B)

Second Year

FD NU 320 (Basic Foods I) (3 units of course weight)
FD NU 321 (Basic Foods II) (3 units of course weight)
FD NU 323 (Socio-cultural aspects of Food) (3 units of course weight)
BIOCH 301
FD NU 364
H EC 300
Options - 9 units of course weight (See Notes A and B)

Third Year

FD NU 465 (Nutrition) (3 units of course weight)
Two senior half courses in Foods and Nutrition (See Note C)
CHEM 212 or option (see Notes A, B, and C)
PHYSL 352
H EC 359 (Presentation and Communication) (3 units of course weight)
Option - 6 units of course weight (See Notes A, B, and C)

Fourth Year

12 units of course weight in Foods and Nutrition courses (see Note D)
6 units of course weight in Computing Science and/or Statistics
Option (See Note B) (6 units of course weight)
Senior Arts option (6 units of course weight)

Note A: Students should note that the prerequisites for H EC 359 are FAM 211 or 3 units of course weight in sociology or psychology and at least 6 units of course weight in the student's major; 000 - 099 level language courses may not be taken for credit.

Note B: To qualify for entry into an approved Generalist dietetic internship, the following courses must be taken: at least 3 units of course weight in the humanities (e.g., Languages, History, Philosophy); at least 3 units of course weight in the social sciences (e.g., Sociology, Psychology, Economics, Anthropology); at least 9 units of course weight in administration (e.g., Organization Theory, Industrial Relations and Accounting); FD NU 468, and FD NU 429 and FD NU 461. In addition, there are specific requirements to qualify for entry into Clinical, Administrative and Community Nutrition Internships. Students should consult guidelines available in the Home Economics General Office and in the Foods and Nutrition Department Office.

Note C: Students specializing in the foods area may take senior Food Science courses (third year).

Note D: Includes 400- and 500-level Foods and Nutrition courses. Note that in the fourth year of the program, students will not normally be permitted to take 100-level option courses for credit.

93.2 The BSc in Home Economics after Approved Degrees

Holders of an approved degree may qualify for the BSc (HEc) degree upon completion of a minimum of ten full (or equivalent) prescribed courses. All curriculum requirements in the home economics program of their choice must be met. In addition, students must obtain a GPA of 5.0 or better in all courses credited towards the BSc (H EC) after an approved degree.

The following residence requirements must be met: the student must attend at least two consecutive terms of a Winter Session in the Faculty of Home Economics and be registered as a full time student in each of the terms; the final year of a degree program must normally be taken in attendance at the University of Alberta.

93.3 Graduate Study

Graduate study leading to the degree of Master of Science may be undertaken in the Faculty of Home Economics. The major work may be undertaken in (1) Clothing and Textiles, (2) Family Life Education, (3) Family Studies, (4) Foods, (5) Nutrition, (6) Foods and Nutrition, and (7) Consumer Studies. Students wishing to pursue graduate study should consult the Graduate Coordinator and familiarize themselves with procedures and regulations of the Faculty of Graduate Studies and Research; this information may be found in the calendar of the Faculty of Graduate Studies and Research.

93.3.1 Family Studies

For students wishing to develop a strong Family Studies component this can be done by adding to the courses offered in the Family Studies Department those related to family in sociology. Some of those courses are: SOC 241, 301, 323, 342, 375, 451, 456, 471, 475, 477, 478.

94 Details of Courses

94.1 General Information

Each course is designated by its computer abbreviation and a number.

Following the title of the course is the symbol "★" standing for course weight, and a number indicating the weight of the course as used in computing grade-point averages. An ordinary full course is weighted 6. A half course is normally weighted 3. Some honors and graduate courses involving research may vary in weight according to the length and difficulty of the research project. Some courses are offered for credit only and carry no weight.

The next three figures, enclosed in parentheses, indicate the hours of instruction required by the course in a week. The format is as follows: the first position indicates lecture hours; the second position indicates seminar hours (s), demonstration (d), clinic (c), or lecture-lab (L); and the third position indicates laboratory hours. The expression 3/2 means three hours of instruction every second week. The hours of instruction for a full course are the same in both terms unless otherwise indicated. If the course is a half course, the term in which it may be offered is mentioned before the hours of instruction.

The appearance of a course description in the following list does not constitute any guarantee that the course will actually be offered in the forthcoming session. Information as to which courses will be offered, the names of the instructors, and all further details must be sought from the department concerned. Those students selecting courses from the Faculty of Business over and above the Business courses open to Home Economics students will require prior approval from the Faculty office. Forms may be obtained from the general office, Room 115, Home Economics Building.

Physical Requirements for University Courses

The University has a commitment to the education of all academically qualified students and special services are frequently provided on campus to assist disabled students.

Nevertheless, some courses make certain unavoidable demands on students, with respect to the possession of a certain level of physical skill or ability, if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the Department concerned and the Disabled Student Services Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for all off-campus courses, instructors may be obliged to refuse registration in such courses.

94.2 Clothing and Textiles

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
CL TX 200	CL TX 150	CL TX 417	CL TX 480
CL TX 201	CL TX 151	CL TX 418	CL TX 365
CL TX 202	CL TX 160	CL TX 419	CL TX 478
CL TX 301	CL TX 155	CL TX 430	CL TX 452
CL TX 302	CL TX 250	CL TX 431	CL TX 456
CL TX 303	CL TX 255	CL TX 432	CL TX 451
CL TX 304	CL TX 268	CL TX 433	CL TX 465
CL TX 305	CL TX 252	CL TX 434	CL TX 481
CL TX 306	CL TX 251	CL TX 500	CL TX 590
CL TX 309	CL TX 270	CL TX 502	CL TX 592
CL TX 310	CL TX 271	CL TX 503	CL TX 593
CL TX 312	CL TX 260	CL TX 505	CL TX 594
CL TX 318	CL TX 265	CL TX 506	CL TX 595
CL TX 320	CL TX 266	CL TX 507	CL TX 598
CL TX 400	CL TX 450	CL TX 508	CL TX 599
CL TX 402	CL TX 355	CL TX 510	CL TX 580
CL TX 403	CL TX 368	CL TX 511	CL TX 581
CL TX 404	CL TX 369	CL TX 512	CL TX 582
CL TX 405	CL TX 352	CL TX 517	CL TX 591
CL TX 406	CL TX 455	CL TX 519	CL TX 578
CL TX 407	CL TX 356	CL TX 520	CL TX 619
CL TX 408	CL TX 460	CL TX 602	CL TX 692
CL TX 409	CL TX 470	CL TX 603	CL TX 668
CL TX 410	CL TX 371	CL TX 604	CL TX 694
CL TX 411	CL TX 471	CL TX 618	CL TX 665
CL TX 414	CL TX 364		

94.2.1 Junior Courses

CL TX 150 Design in Everyday Living
★3 (first term, 3-0-3). An introductory course in design to develop visual awareness. The functional components in our physical environment and their aesthetic quality are evaluated through problem solving.

CL TX 151 Design in Your World
★3 (first term, 3-3s-0). An introductory course in design fundamentals to develop visual awareness in a community context. This course requires some field study to reinforce lecture material. Note: May not be taken by Clothing and Textiles students or by Education students majoring in Home Economics. Credit may not be obtained for both CL TX 150 and CL TX 151.

CL TX 155 Introduction to Apparel Design
★3 (second term, 3-0-3). Application of construction and pattern making principles through creative problem solving design projects. Interrelationship of the principles of patterrn adjustments and garment fitting. Prerequisite: Level of skill equivalent to Clothing and Textiles 20, or consent of Department.

CL TX 160 Clothing and Textiles: A Social Science Perspective
★3 (either term, 3-0-0). An introduction to a multidisciplinary, social science approach to the study of Clothing and Textiles with general application to the life style and life cycle of the individual and family.

94.2.2 Senior Courses

CL TX 250 Residential Design
★3 (second term, 3-0-3). The study and evaluation of the functions, aesthetics and economics of creating an habitation. Prerequisite: CL TX 150.

CL TX 252 Textile Design I
★3 (either term, 2-0-4). An introductory studio course in various methods of printing and dyeing textiles. Prerequisite: CL TX 150 and CL TX 270 and either ART H 102 or 374 or consent of instructor.

CL TX 255 Apparel Design and Construction I
★3 (first term, 3-0-3). Emphasis on interrelationship of principles of design, construction and fabric selection through the execution of design projects and the evaluation of commercially designed products. Prerequisite: CL TX 155. Corequisite: CL TX 270.

CL TX 260 Socio-Cultural Bases of Clothing
★3 (second term, 3-0-0). Forms and functions of clothing in various cultures with emphasis on social organization, culture change, adaptation to environment, and changing technology. Prerequisite: CL TX 160; and any two of SOC 100, SOC 101, ANTHR 101, ANTHR 307; or consent of instructor. Formerly CL TX 412.

CL TX 265 Consumer Issues in Textiles and Clothing
★3 (first term, 3-0-0). Discussion of issues relevant to the demand for and consumption of textiles and clothing, including resource use and conservation, consumer behavior and consumer satisfaction. To be offered in alternate years. Prerequisite: CL TX 160 and ECON 101. Note: May not be taken for credit by students with credit in CL TX 416.

CL TX 266 The Fashion Industry
★3 (second term, 3-0-0). Study of the fashion industry and principles of retailing fashion goods. Prerequisite: CL TX 160. Formerly CL TX 420.

CL TX 270 Textile Science I
★3 (either term, 3-0-3). An introduction to textile serviceability concepts and textile legislation; study of textile components — fibre, yarn, fabric coloration and fabric finish.

CL TX 271 Textile Science II
★3 (either term, 3-1s-2). Introduction to polymer and fibre structure; in-depth study of fibres including production, structure, physical and chemical properties, uses and care; special finishes and their effect on fabric properties, maintenance of textile products. Prerequisite: CHEM 160 and CL TX 270.

CL TX 352 Textile Design II
★3 (either term, 2-0-4). An advanced studio course in various methods of printing and dyeing textiles with a major component of independent study. Prerequisite: CL TX 252 and consent of instructor.

CL TX 355 Advanced Apparel Design and Construction
★3 (second term, 3-0-3). Application of advanced pattern making and construction techniques through the process of product design. Prerequisite: CL TX 255.

CL TX 365 Clothing and Textile Policy
★3 (first term, 3-0-0). Government policies and programs regarding consumer protection, worker protection and environmental protection as they affect the clothing and textile market; international trade agreements and commercial policies for the textile and apparel market. To be offered in alternate years. Prerequisite: CL TX 160 and ECON 102. Formerly CL TX 416. Note: May not be taken for credit by students with credit in CL TX 416.

CL TX 368 History of Costume
★3 (first term, 3-0-3). Evolution of Western fashionable dress from ancient times to the present. Emphasis on primary sources from the nineteenth and twentieth centuries. Prerequisite: Three single-term courses in History or Art History or consent of instructor.

CL TX 369 Historic and Cross Cultural Textiles
★3 (second term, 3-0-3). Textiles from a variety of cultures and time periods; their social significance, production, structure design, and the influence on contemporary design. Prerequisites: Three single-term courses in History, Art History, Design History or Anthropology or consent of instructor.

CL TX 371 Textile Performance Testing
★3 (second term, 3-0-3). Relationship of textile performance to end use. Physical testing and evaluation focusing on consumer products. Textile standards and specifications. Prerequisite: CL TX 271.

CL TX 450 Design in Everyday Living
★3 (either term, 3-0-3). Introduction to design at the senior level; development of visual awareness and aesthetic appreciation. Prerequisite: Graduate standing and permission of instructor. Note: May not be taken for credit by students with credit in CL TX 150.

CL TX 455 Clothing Construction
★3 (second term, 3-0-3). Application of basic principles of clothing construction and fitting to garments made of fabrics requiring special techniques. Prerequisite: Graduate standing and permission of instructor. Note: May not be taken for credit by students with credit in CL TX 301 and CL TX 303.

CL TX 460 Clothing and Textiles: A Social Science Perspective
★3 (first term, 3-0-0). Senior level application of a multidisciplinary, social science approach to the study of clothing and textiles. Prerequisite: Graduate standing and permission of instructor. Note: May not be taken for credit by students with credit in CL TX 160.

CL TX 470 Textile Science
★3 (second term, 3-1s-2). An introduction to textile concepts and principles. Prerequisite: Graduate standing and permission of instructor. Note: May not be taken for credit by students with credit in both CL TX 270 and CL TX 271.

CL TX 471 Advanced Textiles
★3 (second term, 3-0-3). Fiber microscopy, study of major classes of dyes, polymer formation, special polymers, and textile finishes. Chemical reactivity and specialized physical testing. Prerequisite: CL TX 271. Corequisite: CHEM 100.

CL TX 478 Preventive Textile Conservation
★3 (first term, 3-0-3). Theoretical and practical investigation of the preventive care of textiles and costumes in museums or related institutions. Topics include an overview of deteriorating factors, as well as procedures for handling, storage, display, and preventive treatment. Museum collections and personnel will augment university lecture, seminar, laboratory and study collection facilities. Prerequisite: CL TX 270, 368 and 369 or consent of instructor.

94.2.3 Advanced Courses

CL TX 578 Textile Conservation Theory and Practice
★3 (second term, 3-0-3). Theoretical and practical investigation of the degradation and treatment of historic textiles and costumes. Lecture and laboratory experience will include an in-depth study of factors affecting the degradation of fibres, as well as methods of cleaning, bleaching and consolidation. Prereqisite: CL TX 271 and CL TX 478.

CL TX 590 Clothing and Textile Seminar
★3 (either term, 0-3s-0). Research reporting and information retrieval methods. Preparation and presentation of seminar based on an in-depth analysis of the research literature on selected topics. Open only to clothing and textiles students who have completed 90 units of course weight. Prerequisite: H EC 359.

CL TX 592 Independent Study I
★3 (either term, 0-0-6). Independent study planned by student in consultation with faculty from one of the following areas or suitable combination of areas: Textile Science; Housing; Interiors or Furniture Design; Textile or Appare Design; History of Costume, Textile or Furniture; Textile Conservation and Clothing for Special Needs. Prerequisite: Senior course(s) in respective area or consent of instructor.

CL TX 593 Independent Study II
★3 (either term, 0-0-6). Independent study planned by student in consultation with faculty from one of the following areas or suitable combination of areas: Textile Science; Housing; Interiors or Furniture Design; Textile or Apparel Design; History of Costume, Textile or Furniture; Textile Conservation and Clothing for Special Needs. Prerequisite: Senior course(s) in respective area or consent of instructor.

CL TX 594 Practicum in Selected Areas
★6 (either term, or full session). Supervised field experience. Open only to Clothing and Textiles students who have completed 90 credits. Prerequisite: CL TX 150, CL TX 160, CL TX 155, CL TX 271, H EC 300 and H EC 359; senior course in respective area and consent of the Practicum Coordinator. Not allowed if student has credit in CL TX 595.

CL TX 595 Practicum in Selected Areas
★3 (either term, 0-1s-8). Supervised field experience. Open only to Clothing and Textiles students who have completed 90 credits. Prerequisite: CL TX 150, CL TX 160, CL TX 155, CL TX 271, H EC 300 and H EC 359; senior courses in respective area and consent of the Practicum Coordinator. Not allowed if student has credit in CL TX 594.

CL TX 598 Historic Resources Internship I
★3 (0-1s-8). Internship with an institution involved in historic resources conservation. Normally offered in Intersession by special arrangement. Prerequisite: CL TX 578 or consent of Department.

CL TX 599 Historic Resources Internship II
★3 (0-1s-8). Continuation of CL TX 598. Normally offered in Intersession by special arrangement. Prerequisite: CL TX 598 and consent of Department.

94.2.4 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department and/or the University timetable.

CL TX 251 Housing
★3 (first term, 3-0-0). A study of current trends in contemporary Canadian housing; housing needs; housing alternatives; role of governments in housing; Canadian housing within a historical and cultural perspective. Prerequisite: SOC 100 and 101 or 102 or SOC 300 or consent of instructor.

CL TX 268 History of Interior Design and Furniture
★3 (second term, 3-0-0). A study of styles of domestic architecture, interior design and furniture down through the ages with an emphasis on the factors which contributed to the design and the relationship of these styles to present day living. Prerequisite: ART H 101 and 102 or consent of instructor.

CL TX 356 Tailoring
★3 (first term, 3-0-3). Note: To be offered only when staffing allows. Prerequisite: CL TX 155 or consent of instructor.

CL TX 364 Socio-Psychological Bases of Clothing
★3 (either term, 3-0-0). Clothing as a stimulus and response in the establishment, maintenance and enhancement of the self. Clothing as an expression of collective and individual behavior. Prerequisite: CL TX 160; and any two of SOC 100, SOC 102, PSYCO 104, PSYCO 105; or consent of instructor.

CL TX 451 Selected Topics in Housing
★3 (3-0-3). Normally offered in Intersession.

CL TX 452 Selected Topics in Textile Design
★3 (3-0-3). Normally offered in Intersession.

CL TX 456 Selected Topics in Apparel Design
★3 (2-0-4). Normally offered in Intersession.

CL TX 465 Selected Topics in Textile and Apparel Merchandising
★3 (3-0-0). Normally offered in Intersession.

CL TX 480 Selected Topics
★3 (either term, 3-0-0, or 3-0-3, or 2-0-4). Topics of current interest in clothing, textiles and design. Prerequisite: Varies with specific offering.

CL TX 481 Clothing and Textiles Study Tour
★3 (1-1s-6). Normally offered in Intersession.

CL TX 580 Current Issues in Clothing and Textiles I
★1 (either term, 0-1s-0). Prerequisite: varies with offering. Note: The combination of all three of CL TX 580, 581, 582 constitutes the equivalent of a single term course of full weight.

CL TX 581 Current Issues in Clothing and Textiles II
★1 (either term, 0-1s-0). Prerequisite: varies with offering. Note: The combination of all three of CL TX 580, 581, 582 constitutes the equivalent of a single term course of full weight.

CL TX 582 Current Issues in Clothing and Textiles III
★1 (either term, 0-1s-0). Prerequisite: varies with offering. Note: The combination of all three of CL TX 580, 581, 582 constitutes the equivalent of a single term course of full weight.

CL TX 591 Selected Topics
★3 (either term, 3-0-0, or 3-0-3, or 2-0-4). Topics of current interest in clothing, textiles and design. Prerequisite: Senior courses(s) in respective area(s).

94.3 Family Studies

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
FAM 241	FAM 110	FAM 452	FAM 412
FAM 340	FAM 230	FAM 460	FAM 413
FAM 341	FAM 320	FAM 500	FAM 610
FAM 346	FAM 215	FAM 527	FAM 615
FAM 350	FAM 211	FAM 540	FAM 630
FAM 357	FAM 322	FAM 541	FAM 620
FAM 359	HEC 359	FAM 543	FAM 680
FAM 431	FAM 321	FAM 547	FAM 681
FAM 440	FAM 430	FAM 551	FAM 614
FAM 441	FAM 420	FAM 553	FAM 611
FAM 442	FAM 410	FAM 559	FAM 551
FAM 443	FAM 380	FAM 560	FAM 651
FAM 444	FAM 480	FAM 600	FAM 612
FAM 445	FAM 481	FAM 645	FAM 616
FAM 446	FAM 482	FAM 649	FAM 650
FAM 448	FAM 310	FAM 659	FAM 613
FAM 449	FAM 550	FAM 660	FAM 652
FAM 450	FAM 330		

94.3.1 Junior Courses

FAM 110 Family Development
★3 (first term, 3-0-0). As an introductory course to the field of family studies, both an ecosystems model and a family development conceptual framework will be utilized. The focus will be on the family as a unit, the individual as a family member, and their dynamic relationships over time. Note: Open only to Home Economics students: not open to students who have taken SOC 271.

94.3.2 Senior Courses

FAM 210 The Beginning Family
★3 (either term, 3-0-0). An inquiry into the interaction processes, challenges and decisions that are unique to families in the earliest stages of development.

FAM 211 The Family in Transition
★3 (either term, 3-0-0). An introduction to the study of the family through the issues which surround the family and marriage in contemporary society. Reference to research studies and to historical data will provide the basis of the course. FAM 211 and SOC 271 may not both be taken for credit.

FAM 215 Relationship Development
★3 (either term, 3-0-0). A consideration of the sociological, psychological and personal factors entering into the selection of a mate, the development of a relationship, and problems of marital adjustment. Lecture with emphasis on group discussion.

FAM 230 Management of Family Resources
★3 (either term, 3-0-0). Introduction to the principles of management as applied to the use of family resources.

FAM 310 Understanding Family Communication
★3 (either term, 3-0-0). The synthesis of knowledge of communication with knowledge of family relationships and the application of that combination to the student's experience. Emphasis is placed on the effect of communication on individual behavior and family patterns. Prerequisite: FAM 110 or FAM 211 or SOC 271 or consent of instructor.

FAM 320 Development in Infancy and Early Childhood
★3 (either term, 3-0-0). Advanced study of child development within the family from birth through 5 years of age. Particular emphasis will be placed on integrating basic research and theory on development with the practical issues faced by children and families. In addition, students will be required to perform 10-15 hours of observation within a real-world setting. Prerequisite: PSYCO 104/105 and one of PSYCO 223 or FAM 343 or EDPSY 163 or consent of instructor.

FAM 321 Development During School Years and Adolescence
★3 (either term, 3-0-0). Advanced study of child development in the family during school age and adolescent years. Major emphasis will be placed on integrating basic theory and research with practical issues facing children and families. Students will be required to perform 10-15 hours of observation within an appropriate real-world setting. Prerequisite: FAM 343 or FAM 320 or PSYCO 223 or EDPSY 163 or consent of instructor. Not open to students who have taken FAM 347. (Formerly FAM 347).

FAM 322 Human Sexuality
★3 (either term, 3-0-0). An inquiry into the nature of sexual behavior, its personal and cultural sources and its personal, familial, and societal implications. To be offered as staffing allows.

FAM 330 Family Finance
★3 (first term, 2-1.5s-0). Principles of money management applied to family income and expenditure. Budgeting and management of savings will be important. Special emphasis will be placed on the management of credit, investment, insurance, housing. The particular needs of low income money management will be stressed. Prerequisite: FAM 230 and ECON 101/102 or consent of instructor.

FAM 380 Issues in Family Life Education
★3 (first term, 3-0-0). An introduction to family life education as an applied area of family studies. A review of relevant literature in the field as well as study and practice in program planning and evaluation for community family life education programs. Prerequisite: FAM 110 or FAM 211 or SOC 271.

FAM 410 The Aging Family: Needs and Resources
★3 (either term, 3-0-0). An exploration of the interpersonal, personal and physical needs of the aging family throughout the latter stages of the family life cycle beginning at the empty nest stage. Course content will include an assessment of services to older families in Alberta. (Formerly FAM 433).

FAM 411 Family Policy
★3 (either term, 3-0-0). Introduction to the concepts of policy development and policy analysis with an examination of the impact of current policies on the Canadian family. Prerequisite: FAM 110 or FAM 211 or SOC 271. Offered as staffing and resources permit.

FAM 412 Family and Special Needs Children
★3 (either term, 3-0-0). The focus of this course is on the impact of a special needs child on family functioning and family adjustment. The socio-psychological literature will provide an overview of both theoretical and practical issues with respect to family functioning under various conditions. Families with special needs will be compared to other families. Note: To be offered as staffing will allow. Formerly FAM 442 (Family and Special Needs Children).

FAM 420 The Aging Individual
★3 (first term, 3-0-0). An introduction to the normal aging process of the individual beginning at late middle age. The older person's developmental needs and community resources to meet these needs will be emphasized. Prerequisite: FAM 343 or FAM 321 or PYSCO 223 or EDPSY 163 or consent of Department .

FAM 430 Consumer Problems
★3 (either term, 3-0-0). An analysis of problems faced by the family as consumer, within the framework of the economic, sociological, psychological and legal factors which create these problems. Sources of information and aid for the consumer. Prerequisite: ECON 101/102 or completion of an approved economics module available from the campus bookstore. This course will only be offered in alternate years. The prerequisite courses must be completed or the module completed and evaluated prior to the start of the term in which the student is registered to take the course.

FAM 480 Methods in Human Service Agencies
★3 (first term, 1.5-0-3). Methods in the development of administrative and interpersonal skills in human service agencies. Open to senior Family Studies majors; other Home Economics majors, with consent of instructor.

FAM 481 Practicum in Family Services
★6 (second term, 0-1.5s-16). Students will be placed in one of a variety of family related agencies for two full days per week during the second term. In addition, attendance at one seminar per week is required. Prerequisite: FAM 480. Note: Open only to senior Family Studies majors. Must be taken during the same year as FAM 480.

94.3.3 Advanced Courses

FAM 551 Independent Study I
★3 (either term, 0-0-6). Independent study of topics in family studies including independent laboratory and library research. Prerequisite: Students must receive consent from their instructor prior to registration.

94.3.4 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department and/or the University timetable.

FAM 413 Family and Consumer Law
★3 (either term, 3-0-0). An exploration of family and consumer law from a user's perspective. (To be taught in cooperation with the Faculty of Law.) This course will be offered during Intersession only.

FAM 482 Practicum in Program Planning
★3 (either term, 3-0-3). Application of program planning and evaluation principles in actual program planning situation. (To be offered as faculty resources permit). Prerequisite: FAM 380.

FAM 550 Family and Human Development: Selected Topics
★3 (either term, 3-0-0). Students may enroll in this course more than once provided that each time it is taken the topic is different. Note: To be offered as staffing allows.

FAM 615 The Family in Contemporary Society
★3 (second term, 0-3s-0). An interdisciplinary study of the family in modern western society. The nature of the relationship between the family system and selected systems in society will be considered. Prerequisite: FAM 110, or 211 or SOC 271 or consent of instructor.

FAM 616 Seminar in Applied Theory in Marriage and Family Counselling
★3 (either term, 0-3s-0). Selected theories in marriage and family counselling are examined in terms of both their underlying assumptions and their general applicability in promoting effective counselling outcomes. By permission of instructor only.

FAM 650 Seminar in Family Studies: Selected Topics
★3 (either term, 0-3s-0). This course will be offered as staff and time permit. By permission of instructor only.

Note: SOC 271 (Prerequisite: SOC 100, and 101 or 102 or 300) is not open to students who have credit in FAM 110 or FAM 211.

94.4 Foods and Nutrition

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
FD NU 220	FD NU 120	FD NU 445	FD NU 502
FD NU 221	FD NU 121	FD NU 454	FD NU 365
FD NU 222	FD NU 122	FD NU 455	FD NU 466
FD NU 325	FD NU 225	FD NU 464	FD NU 364
FD NU 327	FD NU 227	FD NU 466	FD NU 503
FD NU 406	FD NU 468		

94.4.1 Junior Courses

FD NU 120 Current Topics in Foods
★3 (second term, 3-0-3). An introductory course in food considering the different market forms of foods, and their implications for food handling, preparation and safety. Prerequisite: Chemistry 30 or consent of instructor.

FD NU 121 Current Topics in Foods
★3 (second term, 3-1s-0). An introductory course in foods, considering the different market forms of foods, and their implications for food handling, preparation and safety. Prerequisite: Chemistry 30 or consent of instructor. Note: Credit may not be obtained for both FD NU 120 and 121. FD NU 121 is not acceptable as the Foods requirement for Family Studies students.

FD NU 122 Current Topics in Nutrition
★3 (first term, 3-0-0). An introductory course. Selected problems in community nutrition in developed and developing countries. Prerequisite: Chemistry 30 or consent of instructor. Note: Not open to students who have credit in FD NU 225, 227, 364 or 465.

94.4.2 Senior Courses

FD NU 225 Introductory Human Nutrition I
★3 (first term, 3-0-0). Basic principles of nutrition. The need for and functions of the major nutrients in the human. Prerequisite: CHEM 160 or PHYSL 260, 161, or 162 or equivalent. Not open to Foods and Nutrition or Food Science majors.

FD NU 227 Introductory Human Nutrition II
★3 (second term, 3-0-0). Further emphasis on the need for and functions of the major nutrients in the human. Prerequisite: FD NU 225. Not open to Foods and Nutrition or Food Science majors.

FD NU 320 Basic Foods I
★3 (first term, 3-0-3). Studies of the chemical, physical and sensory properties of carbohydrates present in foods with application to the preparation of foods in the home and institution. Prerequisite: CHEM 160.

FD NU 321 Basic Foods II
★3 (second term, 3-0-3). Studies of the chemical, physical and sensory properties of proteins and fats present in foods with application to the preparation of foods in the home and institution. Prerequisite: CHEM 160.

FD NU 323 Socio-Cultural Aspects of Foods
★3 (second term, 3-0-3). Food habits as influenced by historical, geographical, religious, cultural and economic factors. Implications of these on food selection, menu planning, food purchasing, preparation and intake. Prerequisite: FD NU 320 or consent of instructor.

FD NU 364 Nutrition
★3 (either term, 3-0-3). The principles of nutrition applied to feeding of individuals of various ages under normal conditions with emphasis on energy, carbohydrates, fats and proteins. Corequisite: BIOCH 301. For FD NU majors only.

FD NU 365 Nutrition
★3 (either term, 3-0-0). The principles of nutrition applied to feeding of individuals of various ages under normal conditions with emphasis on energy, carbohydrates, fats and proteins. Corequisite: BIOCH 301. Note: Offered only to non-Foods and Nutrition majors.

FD NU 427 Consumer Acceptance of Foods
★3 (first term, 3-0-3). Factors influencing consumer acceptance of foods with special reference to food safety, quality control, toxicological implications of

ntentional and incidental food additives and implica-ions of product development for the consumer. Prereq-uisite: FD NU 320 and 321 or consent of instructor.

FD NU 429 Experimental Foods
★3 (first term, 3-0-3). Application of the experimental nethod to food problems. Sensory and objective evalua-ion of food properties. Development of an individual esearch problem. Prerequisite: FD NU 320 and 321 or consent of instructor.

FD NU 461 Foodservice Systems Management
★3 (second term, 3-0-4). Operational techniques and pecial problems encountered during the preparation and service of food in quantity, in both commercial perations and foodservice establishments. The labora-ory sessions will provide experience in quantity food roduction. Prerequisite: FD NU 320 and FD NU 321.

FD NU 463 Foodservice Facilities: Planning and Design
★3 (first term, 3-0-0). The systems approach in planning oodservice facilities. The interrelationship between the cientific approach, the management approach and quantity ood production technique in planning and designing oodservice systems. Prerequisite: FD NU 461.

FD NU 465 Nutrition
★3 (either term, 3-0-3). The principles of nutrition ap-lied to feeding of individuals of various ages under ormal conditions with emphasis on vitamins and minerals. Prerequisite: FD NU 364. For FD NU majors only.

FD NU 466 Nutrition
★3 (either term, 3-0-0). The principles of nutrition ap-lied to feeding of individuals of various ages under ormal conditions with emphasis on vitamins and minerals. Prerequisite: FD NU 365. Note: Offered only to non-Foods and Nutrition majors.

FD NU 468 Clinical Dietetics
★3 (second term, 3-0-3). Basic principles of nutrition in linical situations. The role of diet in the management of arious diseases. The laboratory sessions include prac-ical experience in interviewing patients. Prerequisite: FD NU 364. Corequisite: FD NU 465 or consent of instructor.

94.4.3 Advanced Courses

FD NU 502 Coordinated Practical Program
★3 (second term, 0-1s-8). Supervised practical experi-nce in selected areas of interest. Note: For senior oods and nutrition majors.

FD NU 503 Project Course
★3 (either term, 0-0-6). Advanced library and laboratory tudy with a written report on selected problems in uman nutrition or foods. Prerequisite: Consent of instructor.

FD NU 504 Experimental Techniques
★3 (either term, 0-0-6). Application of chemical methods nd bioassays to research in nutrition. Prerequisite: CHEM 212.

FD NU 506 Advanced Clinical Dietetics
★3 (first term, 3-0-3). The principles of diet therapy in elected areas of current interest. Emphasis on case tudies, research and practical problems in diet therapy. Prerequisite: FD NU 468.

FD NU 507 Nutrition in the Community
★3 (second term, 3-0-3). Examination of nutrition prob-ems in contemporary communities. The application of asic concepts of food and nutrition to community nutri-ion problems. Discussion of nutrition programs and esources. Prerequisite: FD NU 364 and 465.

FD NU 508 Advanced Nutrition
★3 (first term, 3-0-0). A lecture and reading course. Prerequisite: FD NU 364 and 465 or consent of instruc-or.

FD NU 509 Advanced Nutrition
★3 (second term, 3-0-0). A lecture and reading course. Prerequisite: FD NU 364 and 465 or consent of instruc-or.

FD NU 510 Food Safety and Hygiene
★3 (second term, 3-0-0). The rationale of Public Health, Consumer and Corporate Affairs and Food and Drug egulations related to Foods and Nutrition, with special mphasis on institution management. Care and handling f foods in the retail store, institution and the home. Prerequisite: FD SC 461 or consent of instructor.

FD NU 511 Advanced Foods
★3 (second term, 3-0-0). Quality characteristics of foods. Current scientific information about foods used in the ome and institutions with emphasis on quality factors uch as color, texture and flavor. Prerequisite: FD NU 20, 321, and BIOCH 301 or consent of instructor.

FD NU 512 Selected Topics: (in Foods and Nutrition)
★3 (either term, 3-0-0). Students may enroll in this ourse more than once provided that each time it is aken the topic is different.

FD NU 514 Current Issues in Foods and Nutrition I
★1 (either term, 0-1s-0). Prerequisite: Varies with offering. Note: The combination of all three of FD NU 514, 515, 516 constitutes the equivalent of a single term course of full weight.

FD NU 515 Current Issues in Foods and Nutrition II
★1 (either term, 0-1s-0). Prerequisite: Varies with offering. Note: The combination of all three FD NU 514, 515, 516 constitutes the equivalent of a single term course of full weight.

FD NU 516 Current Issues in Foods and Nutrition III
★1 (either term, 0-1s-0). Prerequisite: Varies with offering. Note: The combination of all three of FD NU 514, 515, 516 constitutes the equivalent of a single term course of full weight.

94.5 Home Economics

H EC 300 Perspectives of Home Economics
★3 (either term, 3-0-0). A study of the impact of individual and family problem-solving on the near environment and wider ecosystems; major issues regarding the human and material resources for future generations and the role of home economics in confronting and dealing with these major issues.

H EC 359 Presentation and Communication
★3 (either term, 3-0-3). Introduction to the principles of communication; their application in interpersonal, group and mass audience situations relevant to home economics. Practice in verbal communication, demonstrations and display. Prerequisite: A half course in sociology, psychology or family studies (FAM 211 or FAM 110) and at least two half courses in the student's major. This course may only be taken by Home Economics students.

H EC 500 Perspectives in Home Economics/Human Ecology
★3 (either term, 0-0-0). Historical and philosophical perspectives about the nature and purpose of home economics/human ecology; exploration of professional issues and alternative modes of professional practice. Restricted to Graduate students only.

H EC 501 Independent Project in Home Economics
★3 (either term, 0-0-6). Independent study of topics in home economics planned by the student in consultation with the linstructor. Prerequisite: Graduate standing.

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Law

Faculty of Law

101 Introductory

101.1 Members of the Faculty

101.1.1 Staff

Dean
TJ Christian, BA (Hons) (Alberta), LLM (Cambridge)

Associate Dean
BH Ziff, BA (Carleton), LLB (Ottawa), M Litt (Oxford)

Honorary Professors
The Honorable R Martland, BA, LLB (Alberta), BCL (Oxon), LLD (Alberta)
LC Green, LLB, LLD (Hons) (London)
PL Freeman, BA (London), LLB (Manitoba), MLLS (Washington)
The Honorable EI Picard, BEd, LLB, LLM (Alberta)

Professors Emeriti
WF Bowker, QC, BA, LLB (Alberta) LLM (Minnesota), LLD (Alberta)
WH Hurlburt, QC, BA, LLB (Alberta)
TW Mapp, BA (Rochester), JD (Illinois)
A Smith, QC, BA, LLB (Alberta), LLM, JSD (Stanford), LLD (Queen's), LLD (Alberta)

Professors
TJ Christian, BA (Hons) (Alberta), LLM (Cambridge)
DC Davies , LLB (Wales), LLM (Pennsylvania)
CRB Dunlop, BA, LLB (Alberta), LLM (London), MA (Alberta)
BP Elman, BSc (McGill), LLB (Dalhousie), LLM (Harvard)
GL Gall, BA (Queen's), LLB (Windsor)
FD Jones, QC, BA (Alberta), LLB (Dalhousie), LLM (Toronto)
SP Khetarpal, BSc (Punjab), BL (Rangoon), LLM, PhD (London)
LN Klar, BA, BCL, LLM (McGill)
FA Laux, BA, LLB (Alberta), LLM (Harvard)
MM Litman, LLB (Osgoode)
AA McLellan, BA, LLB (Dalhousie), LLM (London)
MKJ Mis, BA, LLB (Alberta), LLM (London)
DR Percy, MA (Oxford), LLM (Virginia)
LJ Pollock, QC, BA, LLB (Saskatchewan)
GB Robertson, LLB (Edinburgh), LLM (McGill)

Associate Professors
RG Hopp, BEd, LLB (Alberta)
JM Law, BA, LLB (Alberta), LLM (Dalhousie)
JC Robb, BA (Calgary), LLB (Alberta)
BH Ziff, BA (Carleton), LLB (Ottawa), MLitt (Oxford)

Assistant Professors
AE Acorn, BA, LLB (Alberta), BCL (Oxford)
RW Bauman, BA, LLB, MEd (Alberta), LLM (Dalhousie)
CE Bell, BA, LLB (Saskatchewan), LLM (UBC)
FC DeCoste, BA (St. Dunstan's), MA (Western), MSW (Carleton), LLB (Distinction) (Saskatchewan)
SAG Elgie, BA, LLB (Western Ontario), LLM (Hons) (Harvard)
EL Hughes, BSc, LLB (Alberta), LLM (UBC)
LC Reif, LLB (Windsor), LLM (Cambridge)
JM Ross, BA, LLB (Alberta), LLM (Virginia)
RJ Wood, LLB (Saskatchewan), LLM (Toronto)

Visiting Professor
RH Franson, BEP (Cornell), JD (California)

Interdepartmental Professor
L Penrod BA, PhD (Ohio State), MAT (Yale), LLB, LLM (Alberta)(Romance Languages)

Assistant Dean (Student Services)
GH Forsythe, BEd, (PTC), LLB (Alberta)

Special Lecturers
The Honorable JE Côté, BA (Hons) (McGill), LLB (Alberta), BCL (Oxford)
The Honorable TH Miller, BA, LLB (Alberta)
The Honorable WA Stevenson, BA, LLB (Alberta)

Sessional Lecturers
RG Baril, BA (Ottawa), BA, LLB (Alberta)
BA Beresh, BA (Regina), LLB (Saskatchewan)
GW Cable, LLB (Alberta)
DP Carroll, BA, LLB (Alberta)
RN Chambers, BEd, LLB (Alberta)
WS Connauton, BA, LLB (Alberta)
PT Costigan, BEd, LLB (Alberta)
JJ Gill, BA (Manchester), LLB (Alberta)
JH Goss, BA, LLB (Alberta)
CF Graydon, BA, LLB (Alberta), BCL (Oxford)
S Hebditch, Dip Lib Tech, BA (Lakehead), M Lib Sci (Alberta)
SD Hillier, BA, LLB (Alberta)
AC Kent, BA (Calgary), LLB (Alberta)
HL Kushner, BSc (Alberta), LLB (Toronto), LLM (London)
LMA Lees, BA, LLB (Alberta)
AH Lefever, BEd, LLB (Alberta)
EF Macklin, BA, LLB (Alberta)
GR McKenzie, BA, LLB (Alberta)
LE Melnyk, BA, LLB (Alberta)
SL Miller, BA (Toronto), LLB (Alberta)
DRJ Noel, BA, LLB (Alberta)
NFW Picard, BA, LLB (Alberta)
AD Pringle, BA (Alberta), LLB (Toronto)
PJ Renaud, BA, LLB (Alberta)
WN Renke, BA, LLB, MA (Alberta)
PJ Royal, BA, LLB (Alberta), LLM (London)
RA Stroppel, BA (Calgary), LLB (Alberta)
FK Taylor, BA (Sonoma), MA (San Francisco), PhD (Columbia Pac.)
J Watson, BA (Ottawa), LLB (Saskatchewan)
MJ Watson, BA, MA, LLB (Manitoba)
RB White, BCom, LLB (Alberta)

Bibliography Instructors
C Ewaskiw, BA, LLB, MLS
L MacPherson, BA, MLS, LLB
J Parkinson, BA, MLS
S Wilkins, BA, MLS (Alberta)

Law Librarian & Assistant Dean (Alumni Affairs)
L MacPherson, BA (Saskatchewan), MLS (Washington), LLB (Calgary)

Faculty Administrator
DM Conlon

101.1.2 Additional Members of Faculty Council

President and Vice-Chancellor
P Davenport, PhD

Director, Institute of Law Research and Reform
PJ Lown, LLB (Hons) (Glasgow), LLM (Saskatchewan)

Representative of Law Society
F Price, Bt, LLB (Melbourne), LLM (Alberta)

Registrar of the University
BJ Silzer, BSc, BEd, MEd (Alberta)

101.2 History of The Law School

Origin of the Faculty of Law

The Faculty of Law has a distinguished history which dates back to its origin in 1921. The Faculty's tradition of excellence in teaching was established due to the influence of its first full-time law teacher and Rhodes Scholar, John A Weir. During its first twenty years of growth, the Faculty expanded with the addition of two noted individuals: Malcolm MacIntyre (a student of Roscoe Pound of the Harvard Law School); and George H Steer (a leading Edmonton practitioner).

After World War II applications for admission rapidly increased the size of the student body and the number of Faculty members. The Faculty's commitment to maintaining an excellent student-teacher ratio resulted in admissions being limited to 180 students per year. The high calibre of students admitted over the past sixty years resulted in graduates reaching top acclaim as members of the Bar and Judiciary. The Faculty produced ten Rhodes Scholars, most of Alberta's judges, several Justices of the Supreme Court of Canada, and many persons prominent in public life.

The following Deans and Acting Deans have been instrumental in the growth and prominence of the Law school: John A Weir (1926-1942); Malcolm McIntyre (1942-1945); George H Steer (1944-1947); Wilbur F Bowker (1948-1968); Gerald LaForest (1969); Gerald Fridman (1969-1975); Frank D Jones QC (1976-1986) and Timothy J Christian (1986-Present).

Facilities and Location

The Law Centre's first class facilities have evolved from rather modest quarters in the University of Alberta Arts Building to a fully self-contained Law Centre which offers comfortable classrooms, a well-appointed Moot Court room, student lounges and services, and the John A Weir Memorial Law Library which, as of 1989, houses a collection of over 300,000 volumes.

The City of Edmonton offers numerous cultural, sport, and recreation activities for law students. In addition to a vibrant business and legal community, Edmonton's Provincial Legislature and other government offices provide opportunities for student and professional growth. The City has a diverse population of approximately 650,000 and is located only four hours from Western Canada's Rocky Mountains and world class ski resorts.

Curriculum Development

Dr Wilbur F Bowker has served the Faculty and student body as an outstanding lecturer, dedicated Dean, and proponent of progressive law reform. Law students receive the benefit of instructional expertise from distinguished members of the judiciary, noted members of the bar, visiting professors, and professors active in research or practice.

The Faculty stresses the learning of substantive law by "case study" methodology and small, group seminars. The appreciation of law as a scholarly discipline is emphasized throughout the curriculum. Learning objectives are designed to broaden and develop the student's analytical, legal writing, advocacy, and negotiating skills.

The 1980's were a period of growth in the depth and scope of a curriculum which reflects the prevailing objective of providing the student and practitioner a broad and continuing legal education. Oil and Gas law, International Humanitarian law, Intellectual Business transactions, Environmental law, Native law, and Women and the law are but a few of the expanded course offerings during this decade. A Native Students Program is in operation and designed to encourage and support the successful study of law by aboriginal people.

The Faculty encourages the use of computers in legal education and instruction. A highly sophisticated microcomputer lab was established during 1988. Computer instruction is now a mandatory component of the first year LLB program. The Law School also recognizes its obligation to contribute to increased public awareness of the law by sponsoring monthly legal education programs. The Faculty also contributes to the substantive legal education of Alberta practitioners by participating in Legal Education Society of Alberta seminars.

Student Achievements

University of Alberta law students have successfully competed in international and national Moots and client counselling competitions.

Notable achievements of the Law school's student body include the publication of legal writing in the *Alberta Law Review* (established in 1955). Students also gain practical experience in client counselling, legal research, and Provincial Court submissions through voluntary service with Student Legal Services. Student life and input to the administration of the Law School is encouraged by providing students with opportunities to serve on a variety of student associations and Faculty Committees.

Affiliations

The quality of legal education is further enriched by the establishment of and close association with the Institute of Law Research and Reform (1968); the International Ombudsman Institute (1978) representing approximately 25 countries; the Health Law Institute (1977); and the Centre for Constitutional Studies (1987). These affiliations continue to attract scholars from a variety of disciplines and broaden the student's and Faculty's national and international perspective.

The Future

The Faculty of Law is justifiably proud of its history and aims to continue the excellent quality of instruction provided to its law students, practitioners, and the general public. The Faculty welcomes the challenge of the 90's and views the future as an opportunity to enhance the ability of legal scholars and practitioners to better serve the administration of justice.

101.3 General Information

(1) **The Program:** The Faculty of Law at the University of Alberta offers a program of required and optional law courses designed to:

a. provide students with a general legal education in the fundamental principles of law; the components of the Alberta and Canadian legal systems; and the history and philosophy of law; and

b. qualify students for the practice of law in Alberta or other common law jurisdictions in Canada; and

c. train students in the legal aspects of business and government administration. The program requires full-time attendance for three academic years and leads to the degree of Bachelor of Laws (LLB).

(2) Prospective law students are invited to consult the Admissions Office of the Faculty for advice on admission. Inquiries on a selection of options or any other academic problems should be directed to the Assistant Dean of Law. See §102.1 for further details concerning admission requirements.

(3) A University degree in law is a basic prerequisite for admission to practice throughout Canada. The Alberta LLB degree will normally be accepted in other Canadian common law jurisdictions to satisfy this prerequisite. Graduates of the Faculty intending to practice law outside Alberta must meet any additional requirements of the jurisdiction in which they intend to practice.

A resident law graduate seeking admission to the Alberta Bar must article with a practising member of the Bar for a period of one year. The *Legal Profession Act*, requires that a degree and an LLB, or two years of studies which would lead to a degree issued by an Alberta University and an LLB degree, be obtained prior to the graduate being admitted as a student-at-law serving articles with a member of the Alberta Bar. The graduate must also take the Bar Admission Course provided by the Law Society of Alberta and pass Bar Admission Examinations.

(4) **The Postgraduate Diploma Program in Law**: The Faculty of Law offers a program of studies leading to a Postgraduate Diploma in Law. The program is designed to provide extensive exposure to a limited area of the law to bring practitioners and other members of the legal profession up-to-date or assist with specialization. For admission to this program of studies the student must:

a. hold an LLB degree, or its equivalent; and

b. meet the requirements for admission to the Faculty of Graduate Studies and Research; and

c. have a minimum of two years experience in the practice of law or a related field.

Inquiries concerning admission to the Postgraduate Diploma Program should be directed to the Director of the Graduate Studies Committee.

(5) **The Master of Business Administration — Bachelor of Laws Combined Degree (MBA—LLB):** The Faculty of Law and the Faculty of Business with the cooperation of the Faculty of Graduate Studies and Research offer a combined MBA—LLB degree. The course of study allows graduates to earn both a Bachelor of Laws (LLB) and a Master of Business Administration (MBA) degree in four calendar years instead of the five academic year period normally required to complete both degrees.

The program is designed to afford students an opportunity to obtain a professional education in both Law and Business Administration as preparation for a career in which law and management overlap.

(6) **Master of Public Management — Bachelor of Laws Combined Degree (MPM—LLB):** The Faculty of Law and the Faculty of Business with the cooperation of the Faculty of Graduate Studies and Research offer a combined MPM—LLB degree. The course of study allows graduates to earn both a Bachelor of Laws (LLB) and a Master of Public Management (MPM) degree in four calendar years instead of the five academic year period normally required to complete both degrees.

The program is designed to afford students an opportunity to obtain a professional education in both Law and Public Management as preparation for a career in which law and government management overlap.

(7) **Master of Laws (LLM)**: The Faculty offers a program of studies leading to the degree of Master of Laws (LLM). The degree requires attendance at a number of courses to be determined by the Dean or the Dean's delegate and the submission of a dissertation on a subject to be chosen by the student in consultation with the Director of the Graduate Studies Committee. To obtain admission to the Master of Laws program the student must:

a. hold an LLB degree, or its equivalent; and

b. meet the requirements for admission to the Faculty of Graduate Studies and Research. Refer to the University of Alberta Calendar, Graduate Studies and Research sections for applicable regulations. Inquiries for admission to the Master of Laws program should be directed to the Director of the Graduate Studies Committee of the Faculty of Law.

(8) **The Law Library**: The Law Library has a collection of approximately 300,000 volumes which include all major Canadian, English, Commonwealth, and U.S. law reports and statutes. The law library receives 4,140 periodical publications each year and provides the student a wide coverage of current legal thought.

The study and research needs of the students and faculty are met by a full range of library services which include: library orientation and tours, reference and inter-library loan services, and instruction in legal bibliography and research methods.

The library's collection is supplemented by access to computer-assisted search services using QL systems which include European and American data bases as well as twelve internally developed data bases. Computer instruction is a compulsory component in the first year of LLB studies. Continued training and funding is available to second year, third year, and graduate students. Instruction is also available to faculty and practitioners. The library houses a 22-station microcomputer lab facility which provides students access to computer search services and the University mainframe computer.

(9) **The Law Centre**: The Faculty is housed in the Law Centre on the University of Alberta campus. The building contains the law library, the faculty offices, and classrooms. It also provides accommodation for the Institute of Law Research and Reform (a body organized by the University of Alberta in conjunction with the Law Society of Alberta and the Attorney-General of the Province); the International Ombudsman Institute (funded by the Alberta Law Foundation), with a world-wide membership of approximately 25 countries; the Health Law Institute; the Centre for Constitutional Studies, the Alberta Law Review, the Cannons of Construction (a student newspaper); Student Legal Services, and the Law Students Association. The Law Centre provides facilities and resources for undergraduates, graduates, practitioners, judges, legislators, and Law Reform bodies.

(10) **The Alberta Law Review**: Law students are encouraged to prepare and submit articles for inclusion in the Alberta Law Review. The Alberta Law Review circulates widely among members of the profession and judges in Alberta, as well as among lawyers and legal academics in other parts of Canada and abroad. The Alberta Law Review is published several times annually and edited by law students in consultation with faculty members.

102 Admissions

102.1 General Admission Requirements

(1) The Faculty Committee on Admissions ("the Committee") will consider the candidates for admission to the Faculty of Law in the following categories:

a. Resident Applicants;

b. Non-Resident Applicants;

c. Special Applicants.

It is the sole prerogative of the Committee to determine the category of the applicant. Accordingly, prospective applicants should carefully read the description set out below.

(2) In measuring academic potential the Admissions Committee shall rely primarily on the grade point average (GPA) and the performance on the Law School Admission Test (LSAT). The GPA shall be given twice the weight of the LSAT.

(3) In assessing the academic record of the candidate more weight will generally be given to marks received during a complete and regular academic session than to a broken academic pattern.

(4) The Committee will not consider any year of study or course or courses which cannot be credited toward a degree, or toward a university diploma approved by the Committee.

(5) **Admission is determined on a competitive basis having regard to all factors available to the Committee. There can be no guarantee of admission.**

(6) **Law School Admission Test (LSAT)**

a. The LSAT is compulsory for all applicants. Test scores will be used to supplement a candidate's pre-law academic record. No special preparation for the test is necessary since it is designed to test aptitude rather than knowledge of subject matter. Test centres have been established at the University of Alberta in Edmonton and at the University of Calgary as well as at most other Canadian university campuses. It is recommended that candidates take the test in the winter of the year immediately preceding the year in which they are seeking admission. An LSAT application blank and bulletin of information, containing complete information concerning the administration of the test, as well as some sample questions, can be obtained by writing to the Faculty of Law; to Law School Admission Test, LSAT-Canadian Service, Box 2006, Newtown, Pennsylvania, 18940-0986, USA; or to, The Schedules Division (Examinations and Timetabling), Office of the Registrar, University of Alberta, Edmonton, Alberta, T6G 2M7.

b. The Committee reserves the right to average scores in the event that the applicant has taken the LSAT on more than one occasion. Accordingly, candidates are cautioned not to sit the LSAT if they are ill.

c. At least one LSAT must have been written within the last five years prior to admission.

(7) **English Language Proficiency**

English is the primary language of instruction in all faculties except Faculté Saint-Jean, where French is the primary language. Therefore, all applicants to undergraduate faculties other than Faculté Saint-Jean must possess an adequate knowledge of written and spoken English as a prerequisite to admission. For example, non-matriculated applicants and Unclassified program students must comply with the requirement along with other applicants.

Applicants to Faculté Saint-Jean need not demonstrate proficiency in English prior to admission being granted. However, they must demonstrate proficiency in English before they may be granted a degree from this institution.

Regardless of country of origin or citizenship status, all applicants will be required to demonstrate proficiency in the English language prior to admission. This demonstration may take any one of several forms:

a. Six full years of education in English in Canada or the equivalent in another country where English is the principal language. Such education must include the Alberta Grade 12, or equivalent level, and can be in a combination of secondary and postsecondary training.

b. Successfull completion of the equivalent of 6 years of full-time instruction in a school/institution in Alberta in which the major language of instruction is other than English, but where the level of English proficiency required for graduation is equivalent to that in English language schools/institutions in Canada.

c. A grade of 80% or better on the diploma examination portion (only) of the Alberta English 30 course, or a grade of 6 or 7 on the International Baccalaureate Higher Level English course or a grade of 5 on the Advanced Placement English (Language Composition: Literature and Composition) course.

d. Graduation from a degree program offered by an accredited university at which English is the primary language of instruction and in a country where English is the principal language.

e. A score of at least 580 on the Test of English as

a Foreign Language (TOEFL) or a score of at least 90 on the Michigan English Language Assessment Battery (MELAB). The TOEFL results must include a score of at least 50 on each of the three components.

Note: Authority to hear petitions and to waive the requirement for undergraduate applicants to write the TOEFL resides with the Registrar acting on behalf of the faculties. Exemptions will be based on assessments of the applicants' English language proficiency as evidenced by a written petition and a personal interview. Please direct enquiries and petitions to the Associate Registrar, Admissions.

The University of Alberta is able to offer a series of TOEFL test administrations throughout the year. Six Special and six International examinations are held each year. Further information and application forms may be obtained from the Student Access Centre, Office of the Registrar, Administration Building, University of Alberta.

) **The decision of the Committee in any matter is final and there is no appeal from the Committee to any other body or person within the Faculty or the University.**

02.2 Resident Requirements

A resident is one who normally has resided in lberta, the North West Territories or the Yukon for one ear immediately preceding the 1st day of September in e year admission is sought. Any period during which e applicant was registered as a full-time student in a ostsecondary institution shall be excluded either as a eriod of residence or as a break in continuity. An lbertan studying elsewhere may be considered a resi- ent.

) To be considered for admission to the LLB program a candidate must normally complete a program leading to a degree recognized by the University of Alberta. (For this purpose successful completion of three years of a four year program at a recognized Alberta university is acceptable).

2) In special circumstances the Committee will consider applications from applicants without a degree who will, prior to or in the winter session preceding the September in which admission is sought, have completed not less than two years, or equivalent of a full program of studies that would be accepted for credit towards any degree at a university in Alberta. To be considered for admission in this manner, a candidate must demonstrate outstanding academic ability i.e.;

a. A minimum grade point average of 7.5 or its equivalent over the two years of study.

b. A minimum LSAT score of 34 or its equivalent.

3) **The Committee shall consider and evaluate, in its sole discretion, the content and grades of the candidate's academic performance and may reject candidates whose general performance or course of study the Committee does not consider satisfactory.**

Special interpretations may be made by the Committee where individual circumstances warrant.

02.3 Non-Resident Requirements

1) The Faculty has a quota set by the University of Alberta being 10% of admissions for non-resident Canadians plus 5% for non-resident students regardless of origin, residence or citizenship.

2) The Committee will not necessarily accept non-resident candidates whose performance is equal or below that of resident Albertans.

3) Grades of all applicants from universities other than the University of Alberta will be converted, insofar as possible, to the 9 point scale in use at the University of Alberta, for the purpose of competitive evaluation.

102.4 Special Categories

No applicant can elect to be placed in any category. Allocation to such category shall be the responsibility of the Committee.

(1) **Aboriginal Applicants:** An aboriginal applicant is a person of native ancestry who is one of the aboriginal peoples of Canada within the meaning of that term in the Constitution Act.

a. Special consideration will be given by the Committee to aboriginal applicants who have a minimum of two years leading towards any degree or equivalent acceptable to a university in Alberta.

b. The Committee recommends the Program of Legal Studies for Native Students offered at the University of Saskatchewan.

c. The requirements as set out in §102.2(1) or (2) a., b., and c. are not applicable to aboriginal applicants. (Applicants who fit into this category do not need a completed degree and those applicants in this category who are not Alberta residents will only be required to have two years or equivalent as described in the regulation. The minimum grade point average and minimum LSAT scores are not applicable.)

(2) **Mature Students**: A mature student is one who is at least 30 years of age prior to the first day of September in the year admission is sought.

A mature student shall:

a. have successfully completed at least two years of undergraduate work that would be accepted at a university in Alberta towards any degree, or have obtained an undergraduate degree from a university recognized by the University of Alberta;

b. exhibit evidence of past achievements in non-academic areas indicative of comparable ability to compete in the studies in law school;

c. in the opinion of the Admissions Committee, have an above average chance of success in law school.

Non-resident mature students may not be required to have a completed degree but will be required to have the two years or equivalent towards any degree. The minimum grade point average and minimum LSAT scores are not required, however, the LSAT must be written. The candidate's course of study will not be given as great a weight as their particular background and personal development.

102.5 Application Procedure

Application for admission to the LLB program must be made on or before the **1st day of February of the year in which the applicant seeks admission.** The application form may be obtained from the Office of the Registrar or from the Faculty of Law and must be completed and forwarded with the required supporting documentation to the Office of the Registrar on or before the **1st day of February in the year in which the applicant seeks admission.**

All applicants will be notified by letter regarding admission or non-admission. Successful applicants are required to confirm their intention to register by submitting a non-refundable $50.00 deposit within the time specified in the letter of acceptance. The deposit will be credited toward payment of tuition upon registration in September.

A small number of candidates may be admitted early, if in the opinion of the Committee, they have demonstrated outstanding academic qualifications. The Admissions Office will not accept telephone calls or correspondence concerning eligibility for early admission.

102.6 Application Documentation

The following documents are required to complete an application and must be received by **February 1st of the year in which the applicant is seeking admission.**

(1) **Transcripts:** Two official transcripts are required. These transcripts must be complete and indicate any degree received. (The Admissions Committee will accept an official letter stating that the student has completed the requirements for his/her degree).

(2) **Résumé:** A résumé containing the academic and work background of the applicant is required.

(3) **LSAT:** It is the responsibility of all applicants to have their LSAT score forwarded to the Faculty of Law Admissions Office directly from Law School Admission Services, Newton, Pennsylvania. The **December** test date is the last LSAT that can be written by applicants seeking admission in the following September. (See §102.1(6)).

103 Programs of Study

103.1 The Degree of LLB

To be eligible for the LLB degree a student must have been in full time attendance at the Faculty for three academic years.

In special circumstances a student may be granted permission by the Dean or his delegate to attend another law school for one of the three years. Students in the MBA-LLB or MPM-LLB program may obtain permission to attend another law school after completing no less than one and one half years of the law studies portion of the program.

(1) **Grading:** A final examination comprising 100 per cent of the grade will be held in each course in any year. However, exceptions to this rule may be made subject to the approval of the Dean. In cases in which an exception is made, a percentage of a grade in any course may be assigned by the instructor to examinations, performance in class, term papers, and other assignments. Early in the session, the instructor will announce to the class the basis on which grades are to be assigned.

(2) **Absence:** If a student has an unexcused absence from a term examination or an unexcused failure to submit a term paper or has failed to perform any other required assignment, the grade assigned to the student for the term examination, term paper, or other required assignment shall be zero. However, in case of illness or other extreme circumstance, the student may be excused from writing the term examination or submitting the term paper or performing the required assignment. To be excused a student must present to the Associate Dean an absence slip signed by the University Health Service, where illness is the cause, or by the Registrar, where the cause is other than illness. When the excuse is accepted, the percentage weight allotted to the term examination, term paper, or required assignment will be added to the percentage weight allotted to the final examination. For regulations governing absence from a final examination see §16.5.2 of the University Calendar.

(3) **Marking:** Marking in the Faculty of Law is on a 9 point scale. The word descriptions of the nine grades are as follows:

9 outstanding	4 conditional pass
8 excellent	3 fail
7 very good	2 fail
6 good	1 fail
5 pass	

(4) **Promotion**

a. **Units of course weight:** In each year of their three years, law students are required to take a program of required and optional courses totalling not less than 29 units of course weight nor more than 31 units of course weight (see §104 below for required courses, optional courses and units of course weight) and to accumulate a total of not less than 90 units of course weight over the three academic years to qualify for the degree of Bachelor of Laws. The Dean or the Dean's delegate may permit a student to register for more than the prescribed maximum units of course weight in an academic year. In extraordinary circumstances, the Dean or the Dean's delegate may permit a student not in first year to register for fewer than 29 units of course weight. Students may not be promoted to the next year of their program of study without having first successfully completed the requirements for the year of the LLB program in which they are currently registered. A student will not be permitted to spend in excess of a total of four years in the Faculty, save in exceptional circumstances. Students are required to pass each course attempted with a minimum grade of 4 before receiving credit for the course.

b. The Faculty operates under a minimum grade point average system which requires that a minimum grade point average of five (5.0) shall be required for promotion for all years. Any student failing to obtain a 5.0 average in an above academic year shall be required to withdraw from the Faculty of Law. Any student with a 5.0 average or better shall receive credit for each course in which a passing or conditional pass grade was obtained and shall receive no credit in a course or courses in which a failing grade was obtained. Any compulsory course failed shall be repeated and any non-compulsory course failed may be repeated. A student who has completed three academic years of the Law Program as provided in sub-paragraph 4(a) but has failed to acquire the requisite 90 credit hours may enter into a fourth year during which he/she must take and pass sufficient courses to acquire the said 90 credit hours. A student will not be permitted to spend in excess of a total of four years in the Faculty, save in exceptional circumstances.

(5) **Reexaminations:**

a. A student in the Faculty of Law shall be permitted a reexamination provided that:

1) The student's GPA is 5.0 or greater.

2) The course has a final examination.

b. If a reexamination is approved the following policies apply:

1) Reexaminations are graded on a Pass/Fail basis.

2) Students are permitted one reexamination per year during each of the three years of the LLB program. A reexamination will not be permitted in a fourth or any subsequent years of the program.

3) Reexaminations for all law students will be written only in June.

4) The Faculty of Law is exempt from general University rules regarding computation of the GPA after reexamination. (See §16.4 of this Calendar).

c. Students requesting a reexamination must follow the procedures detailed in §16.5.4 of this Calendar.

(6) **Appeals:** A student adversely affected by the regulations or their application shall have a right to appeal in accordance with the Faculty's Academic Appeals Procedure (Appeal Policies and Procedures are available in the Associate Dean's Office, Room 485, Law Centre) with a further right of appeal to the Academic Appeals Committee of General Faculties Council (See §16.8 (Appeals and Grievances) of this Calendar). However, the remedies granted on such further appeal shall not be inconsistent with the Faculty's regulations published herein.

(7) **Viva voce (Oral) examination:** All students seeking the degree of LLB may be required by the Faculty to pass a viva voce examination at the end of their last year. Such an examination would be of general character covering the work of the three years of the Law program.

103.2 Moot Courts

The Faculty of Law at the University of Alberta runs an extensive Moot Court program. The Moot Court program is designed to give students experience in the preparation of a case for argument before a court.

Students in first year law, as part of the small group program, are required to argue a moot case in the second term and to achieve a satisfactory standing in the preparation and presentation of the case.

In second and third year, students may voluntarily participate in the competition mooting program which begins in the fall with the run-off rounds and concludes in the spring.

The Edmonton Bar Moot Court competition is open to second year students only and leads to the Alberta Challenge Cup Competition.

The highlight of the mooting program is the Honorable Clinton J Ford Moot Court Competition. This is available only to third year students. Four students are selected from the run-off round and compete for the Honorable Clinton J Ford Shield, a gift of the late Chief Justice and the highest award for mooting in the Faculty of Law at the University of Alberta. The winners of this moot advance to the Gale National Competition.

Second and third year students are eligible to compete in the Coughlan Cup Trial Moot Competition leading to the Western Canada Trial Moot; the American Bar Association Client Counselling Competition; the Jessup International Moot Court Competition; the Niagara International Moot Court Competition; and the Laskin Moot Court Competition.

103.3 Graduate Studies

103.3.1 The Postgraduate Diploma in Law

(1) The Faculty of Law offers a program of graduate study leading to a Postgraduate Diploma in a specialized area of Law.

(2) Applicants for this program must hold the degree of LLB or its equivalent from this or some other university. They must have had a minimum of two years experience in the practice of law or in a related field. They must also meet the general requirements for admission to the Faculty of Graduate Studies and Research.

(3) All candidates for the Postgraduate Diploma must complete a minimum of three courses one of which must be a research paper course and the other two must be regularly scheduled courses in Law.

(4) Courses will normally be completed in one academic year. In special circumstances the Committee for Postgraduate Diplomas may permit an extension of this time but in no circumstances may the time exceed three years.

(5) Inquiries may be directed to the Chair of the Postgraduate Diploma Program in the Faculty of Law.

103.3.2 The MBA - LLB Degree

(1) The Faculty of Law in cooperation with the Faculty of Business and the Faculty of Graduate Studies and Research offers a program leading to both a Bachelor of Laws (LLB) and a Master of Business Administration (MBA) degree.

(2) Applicants must apply to both schools independently and be accepted by both schools independently, based upon each Faculty's usual admission criteria. Students currently enrolled in either the Faculty of Law or the Faculty of Business may apply to the other school, and, if accepted, be considered for admission to the joint MBA - LLB program.

(3) In the first two years of the program, candidates will take the regular first year program offered by both schools, with the sequence being at the student's option. The third year will consist of a mixed program in both faculties and the fourth year will be in the Faculty of Law.

(4) Upon the successful completion of the third year candidates will receive the MBA degree. Upon the successful completion of the fourth year candidates will receive the LLB degree.

(5) Inquiries regarding the joint MBA - LLB Degree Program may be directed to the Chair of the MBA - LLB Degree Program in either the Faculty of Law or the Faculty of Business or to the Dean of the Faculty of Graduate Studies and Research.

103.3.3 The MPM - LLB Degree

(1) The Faculty of Law in cooperation with the Faculty of Business and the Faculty of Graduate Studies and Research offers a program leading to both a Bachelor of Laws (LLB) and a Master of Public Management (MPM) degree.

(2) Applicants must apply to both schools independently and be accepted by both schools independently, based upon each Faculty's usual admission criteria. Students currently enrolled in either the Faculty of Law or the Faculty of Business may apply to the other school, and, if accepted, be considered for admission to the joint MPM - LLB program.

(3) In the first two years of the program, candidates will take the regular first year program offered by both schools, with the sequence being at the student's option. The third year will consist of a mixed program in both faculties and the fourth year will be in the Faculty of Law.

(4) Upon the successful completion of the third year candidates will receive the MPM degree. Upon the successful completion of the fourth year candidates will receive the LLB degree.

(5) Inquiries regarding the joint MPM - LLB Degree Program may be directed to the Chair of the MPM - LLB Degree Program in either the Faculty of Law or the Faculty of Business or to the Dean of the Faculty of Graduate Studies and Research.

103.3.4 The Degree of LLM

(1) The Faculty of Law offers a program of graduate study leading to the degree of Master of Laws.

(2) Applicants for this program must hold the degree of LLB or its equivalent from this or some other university, of sufficient standard to satisfy the Dean of the Faculty that they will be capable of undertaking and profiting by the program. They must also meet the general requirements for admission to the Faculty of Graduate Studies and Research.

(3) All candidates for the degree of Master of Laws must complete at least one academic year, i.e., normally one academic session from September to May, in residence at the University. In special circumstances the Dean of the Faculty may prescribe some longer period, or may permit the required period of residence to be spread over two consecutive academic sessions.

(4) To obtain the degree of Master of Laws candidates must submit and defend a thesis on a topic selected by themselves, subject to the approval of the Dean or the Dean's delegate, in addition to attending courses throughout two terms, the number and character of such courses to be determined in consultation with the Dean or the Dean's delegate.

(5) A candidate may select courses from a broad spectrum of legal subjects offered in the Faculty of Law as well as relevant subjects in other faculties.

Financial assistance, including remission of fees, travel grants for candidates from outside the Province of Alberta, and Intersession bursaries, may be available to suitably qualified candidates. Such assistance will involve candidates in the performance of certain teaching or research duties in the Faculty of Law, though such duties will not impede candidates in the pursuit of their own studies. In addition, the University of Alberta offers certain scholarships to candidates of sufficiently high academic merit.

(6) Inquiries regarding programs, courses and financial assistance other than University scholarships should be made to the Director of Graduate Studies of the Faculty of Law. Inquiries about University scholarships should be made to the Dean of the Faculty of Graduate Studies and Research.

103.3.5 Graduate Courses

Graduate courses include those offered in the Faculty of Law and law related disciplines which have been selected by a candidate in consultation with the supervisor and which have the consent of the Dean.

104 Details of Courses

104.1 General Information

In each year students will enroll in optional courses in the numbers and terms indicated. In admitting students to optional courses, consideration will be given to their preferences but allocations will be made in such a way as to avoid large classes.

In the following list, courses included in Law programs are grouped according to the year of the program in which they are to be taken.

Each course is designated by its computer abbreviation and a number. Following the title of the course is the symbol "★", standing for "units of course weight", and a number indicating the weight of the course.

The next three figures, enclosed in parentheses, dicate the hours of instruction required by the course a week. The format is as follows: the first position dicates lecture hours; the second position indicates minar hours (s), demonstration (d), clinic (c), or lecture- b (L); and the third position indicates laboratory hours. he hours of instruction for a full-session course are the ime in both terms unless otherwise indicated.

The appearance of a course description in the llowing list does not constitute any guarantee that e course will actually be offered in the forthcoming ssion. Information as to which courses will be fered, the names of the instructors, and all further tails must be sought from the Faculty of Law.

hysical Requirements for University Courses

The University has a commitment to the education all academically qualified students and special serv- es are frequently provided on campus to assist disabled udents.

Nevertheless, some courses make certain unavoid- ble demands on students, with respect to the posses- on of a certain level of physical skill or ability, if the cademic objectives of the course are to be realized. In ase of doubt, students are advised to contact the epartment concerned and the Disabled Student Serv- es Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for all ff-campus courses, instructors may be obliged to refuse egistration in such courses.

104.2 First Year Courses

An orientation program for first year students is equired. Students should consult the University Academic chedule for the exact dates of the orientation program.

.AW 400 Introduction to Law
★2 (first term, 2-0-0). An introduction to the legal system n Canada and the judicial process. Emphasis will be laced upon a discussion of the doctrines of precedent nd stare decisis and upon the rules and principles of tatutory interpretation. In addition, a portion of the ourse will be devoted to an examination of the tech- iques utilized in legal research and legal writing.

.AW 410 Contracts
★6 (3-0-0). A discussion of the prerequisites to the reation of contractual obligation: offer and acceptance, ntention and certainty, consideration, the requirements f writing and capacity. The effect of misrepresentations nd terms of the contract, together with the problems of xclusion clauses and of standard form contracts. Ques- ions of discharge from contractual obligation on the rounds of mistake, undue influence, duress, uncon- scionable transactions and frustration. Remedies for reach of contract.

.AW 420 Criminal Law and Procedure
★6 (3-0-0). A general introduction to the criminal law including pretrial procedures and practices; general sub- stantive principles; criminal law and morality; trial proce- dure; double jeopardy; and sentencing.

.AW 430 Torts
★6 (3-0-0). The law of negligence, damages, intentional interferences with persons, property and chattels, the law of strict liability, occupiers' liability, nuisance, defa- mation, the economic torts, the future of tort law.

.AW 435 Constitutional Law and History
★5 (2-0-0;3-0-0). The nature of Canadian federalism under the British North America Act, basic principles of constitutional interpretation, the division of legislative jurisdiction between Parliament and the legislatures, and the Charter of Rights and Freedoms. Emphasis is also placed upon the historic development of the Cana- dian constitutional system.

.AW 440 Real Property
★4 (2-0-0). The course involves a study of the basic principles of law which govern the institution of property in land and wealth derived from land. Rights incident to ownership and possession of land, tenures and estates, concurrent ownership, dower, leases and tenancies, easements, and restrictive covenants are examined. Historical antecedents are considered to the extent necessary to explain the modern law.

.AW 445 Personal Property
★2 (first term, 2-0-0). A study of the concept of posses- sion as the central theme in the law of personal prop- erty. While emphasis will be placed on traditional areas of study such as acquiring title to wild animals, bailment, finder's law, and gifts inter vivos and mortis causa, a portion of the course will be devoted to the changing role of personal property in modern society.

104.3 Second and Third Year Courses

104.3.1 Required Courses

Written Work Requirement

A written work requirement is compulsory for each student in either the second or the third year of the program. The paper must constitute at least 60% of the final grade in the course and a minimum grade of 5 must be obtained on the paper.

Second Year Required Courses

LAW 450 Administrative Law
★4 (2-0-0) or (either term, 4-0-0). Designed to provide an understanding of the legal constraints courts have placed on the behavior of administrative tribunals and government departments. *Topics to be discussed*: What is Administrative Law? How the courts supervise the acts and decisions of administrative bodies. Pitfalls to be avoided by administrative officers: errors of fact and law; excesses of discretion; breach of natural justice. How administrative acts and decisions may be attacked by an aggrieved citizen: remedies. Appeal and review, time limits, locus standi, choice of remedy, procedure. How to avoid attacks by aggrieved citizens. The practi- cal outcome; strength of review. Recent trends in Ad- ministrative Law in Canada.

LAW 510 Company Law
★4 (2-0-0) or (either term, 4-0-0). The law of partner- ships, unincorporated associations, and limited liability companies. The incorporation of companies; relation- ships between the company and outsiders; and relation- ships of the members of the company within the corporate structure.

LAW 575 Evidence
★4 (2-0-0) or (either term, 4-0-0). The adversary system in trial and appellate courts; relevance and admissibility; character evidence including similar facts; opinion evi- dence; the hearsay rule and its exceptions; illegally obtained evidence; judicial notice; burdens of proof and presumptions; quantum of proof; corroboration; compe- tence, compellability and privilege; parole evidence of rule; oaths and affirmations.

Students are required to take **one** of the following courses in second year.

LAW 500 Jurisprudence
★3 (either term, 3-0-0). An enquiry into the nature of law and legal obligation. The first part of the course is a survey of the major schools of jurisprudence with par- ticular emphasis upon positivism, natural law and legal realism. The second part consists of an examination of the modern applications of these theories, especially in relation to the process of judicial decision making and the question of whether there is an obligation to obey the law.

LAW 505 Legal History
★3 (either term, 3-0-0). An introduction to the historical development of law, from early times to the present day.

Third Year Required Courses

LAW 570 Civil Procedure
★4 (2-0-0) or (either term, 4-0-0). The fundamentals of judicial procedure; the jurisdiction of courts, and the process of the courts. Clinical sessions. Rules of Court.

LAW 600 Conflict of Laws
★3 (either term, 3-0-0). Theoretical basis of conflict of laws. Preliminary topics: characterization, renvoi, time element domicile. Choice of Law: domestic relations, contract, torts. Jurisdiction and the recognition of foreign judgments.

LAW 670 Professional Responsibility
★2 (either term, 0-2s-0). A consideration of the respon- sibilities of the lawyer to the profession and the profes- sion to the public. Ethics and organization of the profession.

104.3.2 Optional Courses

In each term of the second and third year a student load of units of course weight shall be a minimum of 14 and a maximun of 17. The total units of course weight taken by a student in the second and third year shall amount to not less than 60. The Associate Dean of the Faculty of Law has the discretion to make variations of this requirement in individual cases.

Under special circumstances, and subject to prior approval by the Associate Dean, a student may take optional courses in other faculties of the University of Alberta only, for credit toward the degree of LLB. Such courses will not exceed a total of three (3) units of course weight in the entire LLB program and will be eligible as a substitute for optional courses in the Faculty of Law only if they are relevant to the discipline of law.

Students who successfully complete the Civil Law/ Common Law Exchange Program offered by the Depart- ment of Justice are eligible to receive two credits toward their LLB degree. The Exchange Program occurs during the summer between a student's second and third year of legal studies.

Students shall select the balance of their course hours from among the following courses.

Note: Without some of these subjects, e.g. LAW 540 (Land Titles), a student may have difficulty obtaining articles after graduation.

Second Year Optional Courses

INT D 468 Principles of International Humanitarian Law
★3 (either term, 3-0-0). Historical background; humani- tarian intervention; human rights; law of war; interna- tional criminal law. Prerequisite: Consent of Faculty of Law or Department of Political Science. [Political Science].

LAW 485 Family Law
★3 (either term, 3-0-0). The formation and annulment of marriage; various matrimonial remedies; judicial separa- tion; alimony; loss of consortium; divorce: ground and procedure; custody of children; financial obligations and property rights between spouses.

LAW 495 Research Paper
★2 (either term, 2-0-0). This program will give selected second year students an opportunity to engage in origi- nal research. The research topic is subject to prior approval of a Faculty member, who shall direct the students, and of the Associate Dean.

Second or Third Year Optional Courses

LAW 460 Taxation
★4 (2-0-0) or (either term, 4-0-0). The scope and purpose of taxation. The taxing power; tax appeal proce- dures; constitutional problem. Personal jurisdiction. Property jurisdiction. Income from a business; capital gains and losses; statutory interpretation, deductions, expenses. Gift tax.

LAW 465 International Law
★3 (either term, 3-0-0). The major objective of the course is to provide an overview of the basic machinery through which international law operates together with a review of principles which regulate the conduct of na- tions in their connections with one another. Topics to be covered include: definition, nature and sources of inter- national law and their application in Canadian courts; international personality; state jurisdiction; nationality and individuals; the law of treaties; state responsibility and international claims; and pacific settlement of inter- national disputes.

LAW 470 Advocacy
★2 (either term, 2-0-0). The conduct of civil litigation including: interviewing and counselling, drafting plead- ings, examinations for discovery, settlement attempts, preparation for court and participation in a mock trial. Emphasis on ethics and techniques of persuasion. Ad- vocacy before tribunals and boards. Prerequisite: Com- pletion of LAW 570 and 575. However, LAW 570 may be a corequisite in both the first and second term.

LAW 480 Equity
★3 (either term, 3-0-0). Historical introduction. Nature of equitable rights. Bona fide purchaser for value without notice *Qui Prior est tempore potior est jure*, and the rule in *Dearle* v. *Hall*; doctrines of conversion, election, per- formance, ademption, and satisfaction. Mistake, misrep- resentation, fraud, and specific performance. Injunction, rectification, cancellation, account and receivership.

LAW 495 Research Paper
★2 (either term, 2-0-0). This program will give selected second year students an opportunity to engage in origi- nal research. The research topic is subject to prior approval of a Faculty member, who shall direct the students, and of the Associate Dean.

LAW 499 Seminars on Specialized Legal Topics
★2 (either term, 0-2s-0). These seminars will cover a specialized topic of emerging importance in the law. The particular topic covered would vary dependent on the availability of Faculty with necessary teaching compe- tence, student interest, and the needs of the legal profession.

LAW 512 Trade Regulation
★2 (either term, 2-0-0). A study of the law regulating competition and anticompetitive business practices. While the common law restraint of trade doctrine is studied, the major part of the course is devoted to a study of those business practices prohibited or regulated by the Combines Investigation Act: price fixing, bid-rigging, price leadership, data dissemination agreements, resale

price maintenance, price discrimination, predatory pricing, mergers and monopolization, refusal to deal, exclusive dealing, tied selling, market restrictions, and consignment selling. The legislation is studied with a view to analyzing its effectiveness in terms of competition policy. There is a comparative look at American antitrust law.

LAW 513 Agency
★2 (either term, 2-0-0). The relationship of Principal and Agent. Capacity of parties. Appointment of agents. Married women as agents of their husbands. Delegation. Agents binding their principals; actual authority; ostensible authority and holding out; ratification. Undisclosed principals. Duties of agent to principal. Duties of principal to agent. Determination of agency.

LAW 514 Credit Transactions I
★2 (first term, 2-0-0). A general view of unsecured creditor's rights and remedies, including prejudgment remedies, execution and attachment of debts; priorities among creditors.

LAW 515 Sale of Goods
★2 (either term, 2-0-0). The law of the sale of goods; nature of contract of sale, conditions and warranties implied by the Sale of Goods Act, passing of property and risk, documentary sales transcations, remedies of the buyer and the seller, circumstances under which a seller can pass a better title than he/she has.

LAW 516 Negotiable Instruments and Banking Securities
★2 (either term, 2-0-0). Law of Negotiable Instruments; Assignment of Choses in Action (including Assignment of Book Debts as a security device); unique banking securities; principal and surety.

LAW 518 Intellectual Property
★3 (either term, 3-0-0). A study of the law with respect to patents, trade marks, trade secrets, copyrights and intangible property generally.

LAW 519 Insurance Law
★3 (either term, 3-0-0). General principles affecting insurance contracts including good faith, indemnity, subrogation, and insurable interest; particular problems arising out of the Alberta Insurance Act in relation to automobile, life and fire insurance.

LAW 520 Criminal Trial Procedure and Advocacy
★3 (either term, 3-0-0). Practical aspects of criminal trial procedure and advocacy. Topics include: legal ethics; information and indictments; arrest and detention; judicial interim release; election and pleas; preliminary hearings; summary conviction appeals, jury trials; extraordinary remedies; miscellaneous problems in advocacy.

LAW 523 The Law and Practice of Sentencing in Canada
★3 (either term, 3-0-0). This course critically examines definitions of crime and criminality as well as social and legal responses to criminal behaviour. Topics to be covered in this course include: the scope and methods of criminological and pennological studies; definitions of crime; victims and victimology; gatekeepers in the judicial system (police discretion); the law and practice of sentencing; deterrence; incapacitation and dangerousness; alternatives to imprisonment; the prison system in Canada; parole; native offenders; female and young offenders. Note: Open to second and third year Law students.

LAW 525 Criminology
★3 (either term, 3-0-0). Sociological, biological and psychological causes of crime and, especially, the practical administration of the penal system in Alberta. Topics include police discretion, Indians and Metis, women, the practice of sentencing, juvenile delinquency and institutions, probation, adult correctional institutions, sociology of prisons, habitual prisoners, "psychopaths," therapeutic communities and group counselling, parole, social consequences of conviction and addiction treatment. The course includes visitors and visits to institutions.

LAW 527 Law and Psychiatry
★2 (either term, 2-0-0). The scope of psychiatry; classification and identification of specific psychiatric problems, with special reference to the legal, ethical and social implications of psychiatric illness and the practice of psychiatry; the way in which the study of psychiatry can be utilized in the practice of law.

LAW 531 Law and Medicine
★2 (either term, 2-0-0). Selected topics pertinent to law and medicine with an emphasis on the practical implications of the law for the medical profession and the effect of changes in medical practice and institutions on the law. Problems will be examined with assistance from professionals working in the relevant areas and recommendations for law reform will be sought.

LAW 536 Civil Liberties
★3 (either term, 3-0-0). An in-depth analysis and discussion of the Charter of Rights and Freedoms and the cases decided thereunder; the role of the judiciary and the legitimacy and scope of judicial review under the Charter; the protection afforded under the Constitution Act, 1867 (e.g. implied Bill of Rights, provisions regarding denominational guarantees), Canadian Bill of Rights, 1960, anti-discrimination laws (e.g. Canadian Human Rights Act, Individual Rights Protection Act), the Office of the Ombudsman, Freedom of Information legislation. All or some of the above will be discussed. Comparative materials will be studied where appropriate.

LAW 540 Land Titles
★3 (either term, 3-0-0). A detailed study of the Alberta Land Titles Act consisting of an analysis of the Common Law and Registry Systems of Conveyancing; Introduction to the Torrens System of Land Titles; The Principles of Indefeasibility; Exceptions to Indefeasibility; Boundary Problems; Caveats; Registrable Instruments; Miscellaneous Title Problems; The Assurance Fund; Limitations of Actions.

LAW 543 Basic Oil and Gas Law
★2 (either term, 2-0-0). The origin, occurrence, and production of oil and gas; the nature of interests in oil and gas; the acquisition and disposition of interests in oil and gas; the rights and duties of parties under oil and gas leases; pooling of oil and gas interests; acquisition of surface leases and pipeline easements.

LAW 551 Municipal and Planning Law
★3 (either term, 3-0-0). The first part of the course will consist of an examination of the theory, structure, organization and operation of local government units in Alberta. The powers and duties of local governments to make laws, to tax, to expropriate, to enter into contracts and to provide and maintain municipal servicing infrastructure will be explored as will the role of the courts, both procedurally and substantively, in respect of supervising the judicial review proceedings and actions in contract and tort. The second part of the course will focus on municipal duties and powers relative to land use planning and regulation as well as the nature and role of non-municipal planning authorities. The objective is to leave the student with an appreciation of how a subdivision or development project is processed through the maze of regulations and agencies that are typically confronted and the role of the lawyer in that process.

LAW 552 Natural Resources Law
★2 (either term, 2-0-0). The judicial, legislative, administrative and policy problems related to the regulation and management of natural resources, including problems of allocation, development, use, pollution control, and conservation. Particular emphasis is placed on water resources.

LAW 553 Environmental Law and Policy
★3 (either term, 3-0-0). The focus of this course will be the Canadian laws and policies designed to control air, land, and water pollution. The course will introduce basic environmental concepts and examine Canadian regulatory legislation; including licensing systems, the use of quasi-criminal sanctions, and environmental impact assessment processes. The course will also review relevant constitutional issues and evaluate the usefulness of the common law as a means to achieve and maintain environmental quality. Other topics may include alternative legal approaches to the resolution of environmental problems, such as the economic incentives, wildlife protection, an environmental Bill of Rights, wilderness preservation, the public trust doctrine of environmental mediation. Note: Open to second and third year Law students.

LAW 555 Labor Law
★3 (either term, 3-0-0). Legal problems concerning the establishment of collective bargaining; negotiation and enforcement of the collective agreement; the activities of unions and employers in industrial disputes; and the internal affairs of labor organizations.

LAW 556 Labor Arbitration
★2 (either term, 2-0-0). The law and practice relating to interest and rights arbitrations in Alberta. The course will be taught partly as a seminar and partly through a series of mock arbitrations in which students will act as counsel.

LAW 558 Poverty Law
★3 (either term, 3-0-0). The culture of poverty and its implications for anti-poverty planning will be examined with emphasis on psychological, sociological and economic theory. Organizational models for the delivery of legal services will be considered together with a treatment of the theory of equality, the problem of accessibility to the "claims process" and alternative methods of dispute settlement. The character of the law concerning the poor will be analyzed as reflected in selected case studies in welfare law, public housing policy, workmen's compensation and unemployment insurance.

LAW 560 Corporate Taxation
★3 (either term, 3-0-0). The tax consequences of corporation financing; amalgamations, mergers, international business transactions; tax planning from a corporation and personal standpoint; and trends in taxation. Prerequisite: LAW 460.

LAW 565 International Business Transactions
★2 (either term, 2-0-0). The purpose of the course is to study the legal issues and implications arising out of Canada's international trade and transnational activities of private capital both Canadian and foreign. (1) The Legal Basis of International Trade: A study of the General Agreement on Tariffs and Trade (GATT) system and subsequent multilateral trade negotiations. (2) Regional Trade and Economic Organizations. (3) Legal Barriers to Private Investment Abroad.

LAW 580 Trusts
★3 (either term, 3-0-0). A brief survey of the historical development of the trust. Definition and classification of trusts. Creation of express trust — the three certainties. Completely and incompletely constituted trusts. Secret, protective, discretionary and illusory trusts. Charitable trust and the rule against perpetuities. Cy-pres doctrine. Non-charitable purpose trusts. Implied or resulting trusts. Constructive trusts. Revocation, termination and variation of trusts. The appointment, retirement and removal of trustees. Duties, discretion and powers of trustees. Breach of trust.

LAW 582 Wills and Administration
★3 (either term, 3-0-0). Principles of the Wills Act, including formalities of execution, revocation, revival, republication, types of legacies, and principles of construction. Testamentary capacity, fraud, and undue influence. Drafting of wills. Appointment of executors and administrators, their powers and duties; probate practice.

LAW 585 Women and the Law
★2 (either term, 2-0-0). This course will start with an historical evaluation of how the law has particularly affected women and continue to an in-depth analysis of the present day situation in Canada and particularly Alberta. Topics to be covered will include discriminatory laws — express and de facto; the criminal law — substantive law and penal reform; domestic relations — protection of consortium, inter spousal actions, marriage contracts, property laws, rights in common law unions, affiliation proceedings; anti-discrimination laws; labor law and affirmative action programs. A comparative analysis will be stressed throughout. It is preferable if a student has taken Family Law.

LAW 586 Children and the Law
★3 (either term, 3-0-0). This course will offer a critical examination of the current legislative regime and policy underlying the legal treatment of children in Canadian society. A review of case law and legislation relating to areas such as neglect, guardianship, custody, adoption, young offenders and legal capacity will be undertaken to better understand the policy and law forming a distinct legal regime for children.

LAW 595 Research Paper
★2 (either term, 2-0-0). This program will give selected third year students an opportunity to engage in original research. The research topic is subject to prior approval of the Associate Dean and the Faculty Supervisor. The research topic shall be different from that used in LAW 495 and have a different Faculty Supervisor.

LAW 599 Seminars on Specialized Legal Topics
★3 (either term, 0-3s-0). These seminars will cover specialized topics of emerging importance in the law at a senior level. The particular topic covered would vary dependent on the availability of Faculty with necessary teaching competence, student interest, and the needs of the legal profession.

LAW 605 Comparative Law
★3 (either term, 3-0-0). A comparison of civil law and common law systems, with the Quebec and selected European systems serving as the focal points for discussion and examination. The seminar concerns itself with particular illustrations from which to draw general conclusions. Its object is to broaden the common law horizon by providing an insight into the workings of the civil law.

LAW 613 Corporate Securities and Finance
★3 (either term, 3-0-0). The course will cover methods of small business financing including equity, borrowing, government assistance; special structures such as partnerships, joint ventures, farmouts and leases. A second major part of the course will deal with sale of securities to the public, the various parties in public financing, preparation of a prospectus, continuous disclosure and stock exchange requirements; evaluation of and issues involved in takeovers. Prerequisite: LAW 510.

W 614 Credit Transactions II
(second term, 3-0-0). The course will provide an in-pth analysis of the law of secured transactions in rsonal property. The salient features of the Alberta rsonal Property Security Act will be examined, includ-topics on scope, attachment, perfection, priority es, proceeds, and remedies including receivership. e federal Bank Act security will be introduced. The urse will also provide an overview of insolvency law. pics will include fraudulent conveyances and prefer-ces, statutory liens and deemed trusts, backruptcy d alternatives to bankruptcy. **Note: Students are rongly advised to take Credit Transactions I and redit Transactions II in the same academic year.**

AW 615 Advanced Commercial Law
2 (either term, 2-0-0). Selected topics in Commercial aw. Prerequisite: LAW 515.

AW 620 Advanced Criminal Law
2 (either term, 2-0-0). The course comprises an exami-ation of substantive criminal law particularly: offences gainst the person and rights of property; the jury ystem; juvenile justice and quasi-criminal proceedings; nd, the extraordinary remedies.

AW 625 Seminar in Criminal Justice dministration
4 (0-2s-0).

AW 630 Advanced Torts
2 (either term, 2-0-0). An analysis of, and problems in, he Law of Torts.

AW 635 Advanced Constitutional Law
2 (either term, 2-0-0). This course will be conducted on seminar basis and will examine particular problems in anadian federalism of contemporary significance.

AW 637 Seminar in Advanced Problems in onstitutional Law
4 (0-2s-0).

AW 640 Real Estate Transactions
3 (either term, 3-0-0). The law governing agreements or sale of land; the open contract of sale, implied terms, pecial covenants in agreements for sale. Remedies of endors and purchasers; election of remedies; cancella-ion and determination clauses. Deposits and instal-ments. Mortgages: legal, equitable and statutory. oreclosure; sales; redemption; possession and attorn-ment. Prerequisite: LAW 540.

AW 643 Advanced Petroleum Law
★2 (either term, 2-0-0). The acquisition of Petroleum interests from the Crown; the terms of operating and developing agreements; conservation legislation and practices including unitization and prorationing; the regulation of the natural gas industry; the pipeline and marketing of petroleum products. Prerequisite: LAW 543.

AW 644 Seminar in Comparative Petroleum Legislation
★4 (0-2s-0).

AW 660 Estate Planning
★2 (either term, 2-0-0). A review of the objectives of estate planning; study of various estate planning tech-niques with the use of hypothetical problems; an exami-nation of provisions found in the Income Tax Act which affect estate planning, estate tax, and gift tax. Prerequi-site: LAW 460.

AW 665 International Law Problems
★2 (either term, 2-0-0). A research seminar dealing in depth with a problem in international law (the specific topic will be announced each year). Designed to train students in the use and evaluation of international legal materials. A paper will be required.

AW 680 Restitution and Remedies
★3 (either term, 3-0-0). A study of the development and application of the idea of unjust enrichment and the circumstances in which a remedy is available irrespec-tive of an action in tort or contract. This includes quasi-contractual recovery, tracing, and the use of the constructive trust.

AW 685 Problems in Family Law
★2 (either term, 2-0-0). Selected topics and problems relating to Domestic Relations including the Family, an in-depth analysis of divorce, women and the law. Pre-requisite: LAW 485.

AW 695 Research Paper
★2 (either term, 2-0-0). This program will give selected graduate students an opportunity to engage in original research. The research topic is subject to prior approval of the Faculty supervisor and the Chair of the Graduate Studies Committee. The research topic shall be different from the thesis topic.

AW 699 Seminars on Specialized Legal Topics
★2 (either term, 0-2s-0). Graduate Level. These semi-nars will cover a specialized topic of emerging impor-tance in the law. The particular topic covered would vary depending on the availablity of Faculty with necessary teaching competence, student interest, and the needs of the legal profession.

104.4 Graduate Courses

At the discretion of the Graduate Studies Committee or the Postgraduate Diploma in Law Committee, any law course (at the 400 level or above) may be considered a graduate course.

104.5 Non-LLB Courses

104.5.1 Intersession Courses

The following courses, normally offered in Intersession, are available to students in other faculties. They will not be considered for credit in the LLB program.

LAW 300 Law for Non-LLB Students I
★3 (first term, 30 hours). The nature, functions, and sources of law; an outline and components of the Canadian legal system. Note: Not available for credit in the LLB Program.

LAW 301 Law for Non-LLB Students II
★3 (second term, 30 hours). Topics to be covered will be chosen from among the following: Morality, Obscenity and the Law; Industrial Relations; the Law and the Family; the Law as a Protector; Freedoms allowed under the Legal System; the Law and the Environment. Prerequisite: Normally, LAW 300 would be a prerequisite but this requirement may be waived at the discretion of the instructor. Note: Not available for credit in the LLB program.

LAW 302 Law for Education Students I
★3 (either term, 3-0-0). A thirty-hour course involving introduction to the sources of law, legal history, the legal system and the role of law. A substantive area of law would be studied in depth to illustrate these matters more clearly. Topics covered would include — What is Law, Sources of Law, Origins of Law, i.e., the development of the common law and its reception to Canada, The Canadian Legal System, The Relationship of Law and Society. Note: Not available for credit in the LLB Program.

LAW 303 Law for Education Students II
★3 (either term, 3-0-0). A course of thirty hours which would involve an examination of several substantive areas in law both to give the student a better understanding of the legal system and to enable the student better to teach law in the high school. Normally, LAW 302 would be a prerequisite for LAW 303 but this requirement could be waived at the discretion of the instructor. Note: Not available for credit in the LLB Program.

LAW 304 Law for Education Students III
★3 (either term, 3-0-0). A self-study course of thirty hours involving the preparation of a paper under the supervision of a member of the Faculty of Law. Prerequisite: Normally LAW 303, but may be waived at the discretion of the instructor. Note: Not available for credit in the LLB program.

104.5.2 Public Management

The following course is offered by the Faculty of Law to students in the Master of Public Management (MPM) degree program. Available only to candidates in the Master of Public Management Program.

LAW 455 Administrative Law for Public Managers
★3 (either term, 3-0-0)

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Library and Information Studies

Faculty of Library and Information Studies

11 Introductory

11.1 Members of the Faculty of Library and Information Studies

11.1.1 Staff

Professor and Dean
GK Bertram, BSc, BLS, MS, PhD

Professors Emeriti
MEP Henderson, BA, MA, BLS
SM Strathern, BA, Dip NZLA, ANZLA
IG Wright, BEd, MS
GE Wright, BA, ML

Professors
RE Brundin, AB, MJ, MLS, PhD
WJ Kurmey, BSc, AM(LS)
A Nitecki, MA

Associate Professors
C de Scossa, BA, BLS, MLS, MA
A Schrader, BA, MA, MLS, PhD

Assistant Professors
A Altmann, BA, MA, BLS, DA
R Inskip, BA, MLS

Sessional Lecturers
L Giffen, BA, MLS
G Hebditch, BA, MLS
L MacPherson, BA, MLS, LLB
S Mikalonis, BEd, GradDip, MLS
R Minion, BA, MLS
H Olson, BA, MLS
ML Veeken, BSc, MLS

111.1.2 Additional Members of the Faculty Council

President and Vice-Chancellor
P Davenport, PhD

Professors
E Chambers, BA, MA, PhD (Business)
J Stott, BA, MA, PhD (Arts)

Assistant Professors
M Iveson, BEd, MEd (Education)
D Oberg, BEd, MLS (Education)

Chief Librarian and Director of Libraries
E Ingles, BA, MA, MLS

Representative
A representative of the Library Association of Alberta

Registrar of the University
BJ Silzer, MEd

111.2 General Information

111.2.1 Historical Note

The Faculty of Library and Information Studies, the only graduate professional library program in the prairie provinces, offers the Master of Library and Information Studies Degree.

The first classes in a Bachelor of Library Science program began in 1968. In 1970 the BLS program was accredited by the Committee on Accreditation of the American Library Association and thus recognized by the American and Canadian Library Associations as meeting library education standards.

In 1971 the Faculty initiated a Master of Library Science program for which the BLS program was the qualifying year. In 1976, in keeping with the Canadian pattern of education for librarianship, the BLS was discontinued and the present two-year MLS program was instituted. The MLS program was accredited in 1979 and re-accredited in 1986. In 1988 the Faculty became the Faculty of Library and Information Studies. Since 1988, the Faculty has offered the Master of Library and Information Studies degree.

As the first professional degree, the MLIS represents a program designed to develop the knowledge, understanding, attitudes, and skills that will prepare graduates for positions of responsibility in school, public, academic, and special libraries, and in information centres.

111.2.2 Mission of the Faculty of Library and Information Studies

Education
To preprare individuals for positions of responsibility in the profession of library and information service.

Scholarship
To carry out scholarly study and research that advances the discipline of library and information studies.

Service
To serve as a resource for libraries and information agencies, for their personnel, and for professional associations.

111.2.3 Goals of the MLIS Program

To provide the knowledge, understanding, and skills sufficient for the practice of library and information service at a basic professional level, including the foundation on which further competence and specialization may be built.

To examine the cultural and informational role in society of library and information services.

To emphasize, where appropriate, the Canadian geographic, cultural, social, and governmental context in which libraries and information agencies operate.

To stress the professional obligation to keep informed of social and technological developments, with particular emphasis on Canadian issues.

111.2.4 Objectives of the MLIS Program

Upon completion of the program:

Students will be familiar with the history, the philosophy, and the service orientation of libraries and librarianship.

Students will have an understanding of concepts of knowledge and concepts of information and of the methods of preservation and transmission of cultural records.

Students will be aware of the responsibility of librarians and information specialists with respect to the free flow of ideas and access to information.

Students will have an understanding of the functions of librarians and information specialists within the larger societal framework, and of the factors influencing the creation, dissemination, and use of knowledge and information.

Students will be knowledgeable about basic principles of selection, acquisition, organization, storage, retrieval, and use of recorded knowledge and information resources of all kinds.

Students will be knowledgeable about the theories and concepts of administration and organizational behaviour and their application to the management of libraries and information agencies.

Students will possess the skills necessary to evaluate library and information systems and services.

Students will have an understanding of the principles of systems analysis and systems design for libraries and information agencies.

Students will understand current information technology as an integral part of the operations and services of libraries and information agencies.

Students will be able to evaluate published research in library and information studies and to apply basic principles and techniques of research in library and information studies.

Students will be aware of the links between library and information studies and other disciplines, including shared methodologies and common concerns.

Students will understand the importance of cooperation among libraries and information agencies and of the development and maintenance of collegial relationships with their fellow professionals.

Students will be aware of the need for continuing professional education and be ready to play an active role in associations and engage in other professional activities.

111.2.5 Student Organizations

The Library and Information Studies Students' Association represents all students enrolled in the Faculty of Library and Information Studies. Students elect their own officers, with the presiding officer representing them at meetings of the Faculty Council. LISSA provides liaison between students and faculty and encourages participation in a variety of academic, professional, and extracurricular activities.

111.2.6 Faculty Library Facilities

The Faculty of Library and Information Studies maintains a library. The collection, designed to supplement that of the University Libraries, includes standing reserve materials to support specific courses of study, representative materials for children and young adults, library reports, and selected index, acquisition, reference tools, and FLIS research projects. In addition to library space, there are facilities for group and individual work and study.

111.2.7 Faculty Computing Facilities

The Faculty of Library and Information Studies maintains a computer laboratory with a Local Area Network of microcomputer workstations and computer terminals which are available to Faculty members and students for instruction, research, and demonstrations. The University computing facilities are accessible as are external databases such as DIALOG, UTLAS, Wilsonline, CANOLE, and others.

112 Faculty Regulations

112.1 Classification of Students

112.1.1 Classification of Graduate Students

Graduate students at the University of Alberta are classified in one of the following six categories:

(1) **Qualifying graduate student:** A student who holds a three-year bachelor's degree from the University of Alberta, or a similar qualification from some other institution, may be admitted as a qualifying graduate student. A graduate of a four-year program entering a completely new field may also be admitted as a qualifying graduate student. On satisfactorily completing a qualifying year in the department, a student may be reclassified as a probationary graduate student or as a candidate for a master's degree.

(2) **Probationary graduate student:** Such a student is one whose academic record is either (i) difficult to assess, as in the case of some foreign students, or (ii) below the standard normally required. After the completion of one academic year, probationary graduate students who have proved their competence to the satisfaction of their department and the Faculty, may be accepted as a candidate for a master's degree or a provisional candidate for a doctor's degree. If accepted then on the recommendation of the department, they may have courses completed during their probationary year credited towards the

requirements for a degree. Each such application will be considered on its merits.

(3) **Candidate for a master's degree (Category A):** Such a student is one who is a graduate of a four-year degree program continuing in the same field (equivalent of an honors degree or degree with specialization from the University of Alberta).

(4) **Candidate for a master's degree (Category B):** Such a student is one who is a graduate of a four-year degree program (beyond senior matriculation), specializing for the first time but not requiring a qualifying year.

(5) **Special graduate student:** Such a student is one who is in every respect eligible for admission to the Faculty and who, though not registered in a degree program at this University, takes one or more graduate courses, with the permission of the department concerned.

(6) **Visiting graduate student:** Such a student is a bona fide student of another university or college who has been permitted to take one or more courses for transfer of credit to his/her own institution which has agreed in advance to such an arrangement.

112.1.2 Classification of Library and Information Studies Students

Students admitted to the Faculty of Library and Information Studies are classified as candidates for a master's degree (Category B).

Students admitted to the program who already hold the BLS degree are classified as either probationary graduate students or as candidates for a Master's degree (Category A).

Applicants with the BLS Degree

Applicants with a BLS degree from an accredited library school or its equivalent, and an academic record acceptable to the Faculty of Graduate Studies and Research and to the Faculty of Library and Information Studies, will normally be admitted as candidates for the MLIS degree and should be able to complete the required work in one year.

112.2 Admission

112.2.1 Admission Requirements for the MLIS Program

(1) An applicant holding a four-year undergraduate degree from the University of Alberta or another accredited university and with academic standing acceptable to the Faculty of Graduate Studies and Research and to the Faculty of Library and Information Studies may be admitted as a candidate (Category B) for the MLIS degree. Individuals with a three-year degree must satisfy the requirements of a four-year degree or its equivalent. (See §204.44.1 of this Calendar).

(2) Applicants with degrees only from other countries may be required to take the Graduate Record Examination Aptitude Tests administered by the Educational Testing Service (see §112.2.2(3) below). Acceptable scores are 600 in the Verbal Section, 525 in the Quantitative Section, and 600 in the Analytical Section. Students taking this examination should arrange for the testing agency to report results to the Faculty of Library and Information Studies, which will judge whether or not the results are satisfactory.

(3) Preference is given to applicants who have had library experience under professional supervision before registration. Such experience tests a candidate's aptitude for library work and gives some knowledge of library terminology and processes.

(4) Applicants are judged not only upon their academic record but also on their professional promise as indicated in three letters of reference. A personal interview, arranged at a time and place convenient to the applicant, may also be requested by the Faculty or by the applicant.

The minimum requirements for admission to the Faculty of Graduate Studies and Research as a graduate student are outlined below. Even though an applicant may appear to satisfy the general admission requirements, acceptance into the MLIS program is not guaranteed.

112.2.2 Admission Requirements for the Faculty of Graduate Studies and Research

The requirements for admission as a graduate student are:

(1) A four-year baccalaureate degree, with a grade point average of at least 6.5 in the work of the last two undergraduate years at the University of Alberta, or an equivalent qualification from another institution, and

(2) A statement from the chair of the department concerned to the effect that the applicant is, in all respects, acceptable to the department. A special graduate student or a visiting graduate student, however, not being a candidate for a degree, does not require departmental recommendation.

(3) All applicants who have not previously received a degree (for which the language of instruction was English) from a university in Canada, the UK, the USA, Australia, or New Zealand must obtain a score of 600 on the Test of English as a Foreign Language, or a score of 85 on the Michigan English Language Examination in order to be admissable to the MLIS program.
See §202.2.2.

112.2.3 Refusal of Admission

Notwithstanding the Admission Requirements referred to above, the University of Alberta may at its discretion refuse admission to any applicant.

112.2.4 Application Procedures

Application for admission must be submitted on forms supplied by the Faculty of Library and Information Studies. No assurance can be given that applications received after June 15 (for first term, Winter Session) can be processed in time to permit registration in that session. Graduates of other universities must arrange with the registrar of those institutions to forward two transcripts of their academic records to the Dean of the Faculty of Library and Information Studies prior to this date. The Dean of the Faculty of Graduate Studies and Research or the Dean of the Faculty of Library and Information Studies may require applicants to furnish an official description of the content of the courses listed on the transcripts.

112.3 Registration

Particulars will be provided when a student is officially admitted to the Faculty. On entering the MLIS program all students are assigned a program supervisor who will assist them in planning their course of studies.

112.3.1 Changes in Registration

Deletion of courses, changes from "credit" to "audit", or changes from "audit" to "credit", may be made only on recommendation of the department in which the student is taking the graduate degree.

Such changes of registration, first approved by the Dean, must be received by the Faculty of Graduate Studies and Research no later than the following dates:

- adding first term and full session courses - September 11;
- changing from "credit" to "audit" in first term courses - September 12-16;
- withdrawing or changing from "credit" to "audit" in first term courses - October 18;
- changing from "credit" to "audit" in full session courses - January 10;
- adding or changing from "credit" to "audit" in second term courses - January 13-15;
- withdrawing or changing from "credit" to "audit" in second term and full session courses - February 14.

No credit will be given for any course unless it is included in the student's registration or covered by an official change of registration.

Note: Individual departments may require an earlier deadline date for changes in course registration.

112.3.2 Maintenance of Registration

Every student in a graduate degree program must register once a year in order to keep the program active. This registration entitles students to the use of University facilities and to assistance from their supervisors for a twelve month period. Registration during the final year of the program permits students to graduate at either of the two following convocations.

The procedure for re-registration is the same as for initial registration.

Students who fail to maintain continuous registration will be considered to have withdrawn from their programs. If they wish to resume work on a program, they must apply for re-admission to the Faculty of Graduate Studies and Research and have the program reassessed in terms of the regulations in force at the time of reapplication. If they are recommended for readmission, a readmission fee of $598.00 will be charged in addition to the fees assessed in the regular manner.

112.3.3 May-August Summer Period

Graduate students who are working full-time on their graduate program during part or all of the period from May to September are encouraged to record their presence on campus at their departmental office. Those holding University awards during this period must also record their presence. Residence credit may be given for this period if the student has signed the record.

112.3.4 Cancellation of Registration

A student who wishes to withdraw from the University should complete "Notice of Withdrawal" forms which must then be submitted to the Dean for approval. A student who withdraws without completing such forms will not be eligible for any refund of fees, nor for exemption from fees in the event that they have not been paid.

A fee adjustment will be made and refunds will be authorized in accordance with the table published in §15.2.5 of the University Calendar. The date used for the purpose of calculating the refund is that on which the withdrawal is approved by the Dean.

112.4 Residence Requirements

Residence is an essential component of all graduate degree programs. The purpose of residence is to encourage students to gain insight and intellectual stimulation through direct contact with the University environment, staff, and other students.

To fulfill the residence requirement students must be registered as full-time for the period of residence specified, enabling them to participate fully in on-campus activities related to their degree program.

Minimum period of residence is: Master's degree programs: two (four-month) terms*.

*For purposes of residence, a term is defined as Fall (September-December) or Winter (January-April). An academic year is defined as the eight-month period from September to April.

Students who cannot enroll in at least nine units of course weight per term (full-time attendance), and whose employment relates directly to their academic studies, may petition the Faculty of Graduate Studies and Research to have the normal residency requirement waived. Petitions should be made through the Dean of the Faculty of Library and Information Studies.

112.5 Academic Standing

The pass mark in any course taken for credit towards the Master of Library and Information Studies degree is a grade of 6. A student with a grade of 5 or less in any course must petition the Faculty to remain in the program. An overall average of 6.5 must be maintained for successful completion of the program.

A student who does not achieve a pass mark in any required course must repeat the course or, subject to the approval of the Faculty, may be permitted to take an appropriate alternate course.

A student who does not achieve a pass mark in an elective course must repeat the course or substitute another elective course.

Reexamination

Graduate students are not permitted to take re-

examinations. If, after consulting the department or the committee concerned, the Faculty decides that a graduate student is not making satisfactory progress in either course work or research, the student may be required to withdraw.

112.6 Appeals and Grievances

Students who believe they have academic grievances should first approach the instructor concerned. Failing satisfaction, they should then seek redress from their Faculty adviser, then the Dean of the Faculty of Library and Information Studies. Should the Dean not be able to resolve the matter, the student may request, formally in writing, the formation of a Faculty Appeal Committee. If the Committee's recommendation is not acceptable to the student, he or she may then appeal to the Chair of the Faculty of Graduate Studies and Research Academic Appeals Committee, and then to the General Faculties Council Academic Appeals Committee.

112.7 Time Limits for Completion of Program

To be recommended for a Master's degree, candidates must have completed all the requirements within four years of the time they are first registered as a probationary graduate student or candidate in the Master's program.

113 Programs of Study

113.1 The Degree of MLIS

The Faculty of Library and Information Studies offers a two-year (four-term) program for university graduates leading to the degree of Master of Library and Information Studies (MLIS). The normal course load is four three-weight courses per term.

A full-time student who is registered as a candidate for the MLIS degree program normally will be able to complete the degree requirements in two academic years. The minimum requirement for the MLIS degree is either 39 units of course weight of graduate courses and a thesis, or 48 units of course weight of graduate courses. The first term of study during which 12 units of course weight of required courses normally are taken must be spent in full-time attendance. A second term of full-time attendance as defined by the Faculty of Graduate Studies and Research (at least nine units of course weight during one term) is required to complete the residence requirement.

Credit for courses taken elsewhere may be granted as advanced credit by the Dean of the Faculty of Graduate Studies and Research on the recommendation of the Faculty of Library and Information Studies provided that the courses have not been counted towards a previous degree. (Please note the special provision for applicants with the BLS degree.)

Inquiries regarding program and course details and financial assistance other than University scholarships should be made to the Dean of the Faculty of Library and Information Studies. Inquiries about University scholarships should be made to the Student Awards Office.

114 Details of Courses

114.1 General Information

In the following list of courses, each course is designated by the abbreviation for Library and Information Studies and its number.

Following the title of the course is the symbol "★", standing for "units of course weight", and a number indicating the weight of the course as used in calculating grade-point averages.

The next three figures, enclosed in parentheses, indicate the hours of instruction required by the course in a week. The format is as follows: The first position indicates lecture hours; the second position indicates seminar hours (s), demonstration (d), clinic (c), or lecture-lab (L); and the third position indicates laboratory hours. If the course is a single term course, the term in which it is offered is mentioned.

The appearance of a course description in the following list does not constitute any guarantee that the course will actually be offered in the forthcoming session. Information as to which courses will be offered, the names of the instructors concerned and all further details must be sought from the Faculty of Library and Information Studies.

Physical Requirements for University Courses

The University has a commitment to the education of all academically qualified students and special services are frequently provided on campus to assist disabled students.

Nevertheless, some courses make certain unavoidable demands on students, with respect to the possession of a certain level of physical skill or ability, if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the Department concerned and the Disabled Student Services Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for all off-campus courses, instructors may be obliged to refuse registration in such courses.

114.2 The MLIS Program

The following courses are required for both the thesis and course-based routes of the MLIS program: LIS 501, 502, 503, 504, 505, 506, and one of LIS 412, 511, 512, 513, 514, 515, 516, 517, 518, 519. LIS 501, 502, 503, and 504 are prerequisites to the rest of the program. In the thesis route, THES 900 or THES 999 is required; in the course-based route LIS 900 is required. Not all the courses listed in the Calendar will be offered in any one year.

LIS 412 Storytelling
★3 (either term, 3-0-0). To examine the past and present forms of storytelling, including the oral tradition, the function of the storyteller, the selection of material and the techniques of telling stories and listening to stories.

LIS 432 Survey of Children's Literature
★3 (either term, 3-0-0). A survey of literature for children from infancy through the elementary school years. The emphasis is on books currently read by children. Principles of evaluation, children's reading needs and interests, and current issues and trends will be examined. This course is not open to MLIS students.

LIS 501 Introduction to Library and Information Studies
★3 (first term, 3-1s-0). To provide an overview of the historical, current and potential roles of library and information professionals in western society. To introduce the study of environmental factors affecting library and information services. Economic, social, legal, political, technological and professional factors will be examined. Required course.

LIS 502 Organization of Knowledge and Information
★3 (first term, 3-1s-0). To introduce students to the organization of knowledge and information, including bibliographic control, classification, indexing and abstracting. Required course.

LIS 503 Library Materials and Information Services
★3 (first term, 3-1s-0). To understand the function of information services programs, to examine policies designed to build materials collections in support of such programs, and to become familiar with examples of major reference/information sources. Required course.

LIS 504 Management Principles for Library and Information Services
★3 (first term, 3-1s-0). To introduce principles of management applicable to the organization of library and information services. Required course.

LIS 505 Research Methods for Library and Information Studies
★3 (second term, 3-0-0). To develop an ability to understand the nature of research and its methodologies and techniques used in library and information studies. Required course.

LIS 506 Introduction to Automation and Bibliographic Information
★3 (second term, 3-0-1). To provide an introduction to, and an understanding of the general field of automation and its implications for library and information services. Required course.

LIS 511 Adult Materials
★3 (second term, 3-0-0). To develop an awareness of the recreational, educational and professional library and information needs of adults (including the less specialized needs of the high school, college and university communities), and of the materials available to meet the needs.

LIS 512 Information Resources in the Social Sciences
★3 (either term, 3-0-0). To understand the nature, function and communication patterns of the social sciences and to be able to select, organize and effectively use relevant information resources.

LIS 513 Resources in the Humanities and Fine Arts
★3 (second term, 0-3s-0). To examine and to develop an understanding of the nature of the humanities and fine arts, and of the types of library materials and information services necessary to support scholarship, research, and general information-seeking in these disciplines.

LIS 514 Scientific Information Resources
★3 (second term, 3-0-0). To introduce the nature of science and its information resources.

LIS 515 Survey of Materials for Young Adults
★3 (either term, 3-0-0). To survey print and non-print materials for young adults of junior and senior high school age. To examine young adults' reading interests and current trends and issues in young adults' literature.

LIS 516 Canadian Materials
★3 (second term, 3-0-0). To survey, analyze, and examine print and non-print materials available for building Canadiana collections, and to consider issues in the development of such collections.

LIS 517 Government Publications
★3 (either term, 3-0-0). To examine Canadian government publications and to investigate methods of control and dissemination as a model applicable to all political jurisdictions.

LIS 518 Information Materials for Children and Young Adults
★3 (first term, 3-0-0). To survey information materials that children and young adults use and the ways in which these materials are used. Prerequisite: Either LIS 432 or 515.

LIS 519 Introduction to Children's Literature
★3 (second term, 3-0-0). An introduction to literature for children from infancy through the elementary school years. Principles of evaluation and selection will be developed, and current issues and trends will be examined.

LIS 531 Collection Management
★3 (first term, 3-0-0). To develop an analytical approach to collection management including the acquisition, review and evaluation of collections.

LIS 532 Cataloguing and Classification
★3 (either term, 3-0-0). To prepare students to construct a catalogue and to describe and classify various forms of materials for either manual or computerized situations.

LIS 533 Advanced Cataloguing and Classification
★3 (second term, 3-0-0). To prepare students to specialize in cataloguing and classification work in a traditional or computerized setting. Prerequisite: LIS 532.

LIS 535 Indexing and Abstracting
★3 (either term, 3-0-0). To examine the principles and practice of indexing and abstracting in a traditional or computerized centre.

LIS 536 Advanced Information Services
★3 (either term, 3-0-0). To consider the varied means used to disseminate information, and to become familiar with more advanced types of information sources. There is a $50 fee for taking this course.

LIS 537 Management of Information Technology
★3 (first term, 3-0-1). To identify areas of library and information operations suitable for computer applications and to evaluate them critically. Emphasis on: microcomputer applications, information technology such as CD-ROM, software evaluation, and installation.

LIS 538 Automation in Libraries and Information Centres
★3 (first term, 3-0-1). To develop students' ability to design and implement typical automated procedures related to library and information studies. Includes computer programming, file organization, and data structures.

LIS 540 School Media Centres
★3 (either term, 3-0-0). To examine the concept and organization of media resource centres in elementary and secondary schools. Prerequisite: Teaching Certificate.

LIS 541 Public Libraries
★3 (second term, 3-0-0). To develop an understanding of public libraries and public library systems, their structure and management.

LIS 542 Academic Libraries
★3 (second term, 2-1s-0). To develop an understanding of the nature and functions of university, community college, and technical college libraries.

LIS 543 Special Libraries and Information Centres
★3 (second term, 3-0-0). To develop an understanding of the special libraries and information centres, their purpose, structure and management with an emphasis on service.

LIS 544 Special Collections Librarianship
★3 (second term, 3-0-0). To develop an understanding of the nature and importance of special collections in libraries, and to consider primary aspects of the administration of such collections.

LIS 545 Management of Human Resources in Library and Information Services
★3 (either term, 3-0-0). To introduce the field of personnel management as an area of critical importance.

LIS 546 Marketing Library and Information Services
★3 (either term, 3-0-0). To develop an understanding of the principles of marketing and public relations for nonprofit organizations with an emphasis on library and information services.

LIS 547 Financial Management of Library and Information Services
★3 (second term, 3-0-0). To provide the student with a basic understanding of trends and issues in the financial management of libraries and information services as an integral part of the planning and political process.

LIS 548 Library Services to Children and Young People
★3 (second term, 3-0-0). To develop a knowledge of the principles and practices of programming library services for children and young adults. Prerequisite: One of LIS 432 or 515.

LIS 581 Bibliography: Systematic, Historical, Analytical and Descriptive
★3 (second term, 0-3s-0). To study the field of bibliography from intellectual to physical aspects affecting the transmission of the text. Prerequisite: LIS 586.

LIS 582 Contemporary Issues in Library and Information Studies
★3 (first term, 0-3s-0). To consider new and continuing topics of concern or debate in the library and information professions and how they influence information attitudes and programs.

LIS 583 Comparative Librarianship
★3 (first term, 0-3s-0). To develop an understanding of the nature of comparative librarianship as a discipline, and to enable the students to apply principles to practice.

LIS 584 Library and Information Systems and Networks
★3 (first term, 3-0-0). To develop a basic understanding of library cooperation and the management of systems and networks.

LIS 586 History of the Book
★3 (first term, 3-0-0). To describe the historical, esthetic and economic bases of the book and its role in the recording and preservation of information and ideas.

LIS 587 Library Buildings
★3 (first term, 3-0-0). To study various types of library building needs, the involvement of librarians and architects in the planning process, and various contemporary building styles.

LIS 588 Communications
★3 (second term, 3-0-0). To develop an understanding of the communication process and the role of librarians and information professionals.

LIS 591 Publishing
★3 (either term, 3-0-0). To examine the organized business of writing, manufacturing and marketing books and other media.

LIS 593 Archives Administration
★3 (either term, 3-0-2). To develop an understanding of archival records and their role in the preservation of information resources.

LIS 594 Records Management
★3 (either term, 3-1s-0). To develop an understanding of records management.

LIS 597 Advanced Research Methods for Library and Information Studies
★3 (first term, 0-3s-0). In-depth examination of research methodologies relevant to the field of library and information studies and to the research interests of students pursuing doctoral programs, thesis-route master's programs, or other advanced projects.

LIS 598 Special Topics
★3 (either term, 3-0-0). A current topic of significance to, or a special aspect of library and information studies may be examined as demand and resources permit.

LIS 599 Directed Study
★3 (either term, 0-3s-0). To assist students in further study of special topics and issues based on knowledge acquired in previous courses or on significant prior experience. Topic to be approved by the Faculty. Prerequisite: LIS 505.

LIS 900 Project. For students in the course-based route. Topic to be approved by the Faculty. Prerequisite: LIS 505.

THES 900 Thesis. Topic to be approved by the Faculty. Prerequisite: LIS 505, 597.

THES 999 Thesis. Topic to be approved by the Faculty. Prerequisite: LIS 505, 597.

114.2.1 Cognate Courses in Education

The following courses in the Elementary Education Department of the Faculty of Education are also available as part of the MLIS program:

ED ES 443 School Librarianship
★3 (first term, 3-0-0). Introduction to the philosophy and administration of school library programs. Prerequisite: Successful completion of practicum requirements or teaching experience.

ED ES 541 School Library Collection Development
★3 (either term, 3-0-0). Prerequisite: ED ES 443 or consent of Department.

ED ES 543 School Library Programs
★3 (second term, 3-0-0). Focus on cooperative planning and implementation of school library programs. Prerequisite: ED ES 443 or consent of Department.

ED ES 546 School Library Information Materials
★3 (either term, 3-0-0). Prerequisite or corequisite: ED ES 443 or consent of Department.

ED ES 547 Organization of School Library Materials
★3 (either term, 3-0-2). Prerequisite or corequisite: ED ES 443 or consent of Department.

ED ES 548 Directed Study in School Library Research
★3 (second term, 3-0-0). Prerequisite or corequisite: ED ES 443 and 543 or consent of Department.

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Medicine

Faculty of Medicine

21 Introductory

21.1 Members of the Faculty

Note: An asterisk (*) by the name indicates a ...condary appointment within the Faculty.

21.1.1 Office of the Dean

...ean
...R Wilson

...ssociate Deans
...Goldsand
...H Harley
...B Jones
...J Poznansky

...ssistant Deans
...Cheeseman
...Fenna

...rectors
...D MacLean
...A McBlain
...Davis

...ssociate Professor
...I Tyler

...culty Service Officer
...M Gupta

...dministrative Officers
...M Spencer
...M Whidden

...chnology Development Officer
...Barrington-Leigh

21.1.2 Divisions of the Faculty

Critical Care Medicine

...omedical Ethics And Humanities

...rector
...Dossetor

...djunct Professors
...Bryant
...Cook
...C Fraser
...Shone

...itical Care Medicine

...rector
...N Noseworthy (Associate Professor)

...ofessors
...L. Collins-Nakai
...N Finer
...G King
...Schiff

...ociate Professors
...C Etches
...RT Gibney
...Greenwood

...sistant Professors
...Byrne
...Gayle
...M Hamilton
...K Heule
...Koo
...McDonnell
...Peliowski
...Ryan
...Shustack
...Tierney
...Van Aerde

...ociate Clinical Professors
...I Dickout
...Johnston
...Modry
...Penkoske

Assistant Clinical Professors
*IH Ahmed
*DA Campbell
*DN Chin
*Z Lakhani
*DE Stollery
*DD Vincent

Emergency Medicine

Acting Director
*DL Schragge

Health Sciences Media Services and Development

Director
*CM Bidwell (Faculty Service Officer)

Health Sciences Laboratory Animal Services

Director
DH Neil (Professor)

Faculty Service Officers
TF Bayans
J Bayens-Simmonds

Neuroscience

Director
*RB Stein (Professor)

Professors
*GB Baker
*WF Dryden
*AS French
*T Gordon
*DR McLean
*RA Murphy
*KG Pearson
*A Prochazka
*R Smith

Associate Professors
*AJ Greenshaw
*NC Milos
*PA Smith
*NL Stockbridge

Assistant Professor
*JH Jhamandas

Clinical Professor
*JDR Miller

Associate Clinical Professors
JA Nicas
*KC Petruk

Assistant Clinical Professor
*WJ Vanast

Adjunct Professors
CHM Beck
E Boberg
AR Dobbs
MJ Gillespie
GR Holland
BK Mitchell
RE Peter
AH Putnam-Rochet
A Robertson
BG Rule
AN Spencer
D Treit

Oncology

Director
*ALA Fields (Associate Professor)

Professors
*JJ Akabutu
*PS Allen
*RP Beck
*CE Cass
*WG Dewhurst
*GA Glazebrook
*JF Henderson
*BM Longenecker
*RN MacDonald
*MJ Mant
*DG McFadden
*TA McPherson
*VH Paetkau
*ARP Paterson
*MC Paterson
*S Poppema
*JW Scrimger
*AAE Starreveld
*OG Thurston
*RC Urtasun

Associate Professors
*A Belch
*AJ Franko
*DS Fulton
*AW Lees
*GD MacLean
*DG McGowan
*JE Pederson
*ARE Shaw
*AR Turner
*PM Venner

Assistant Professors
*MJ Allalunis-Turner
*SJ Allan
*LK Boshkov
*EM Bruera
*SJ Desai
*EE El-Khatib
*R Godbout
*PE Grundy
*HR Hooper
*A Janowska-Wieczorek
*N Jha
*LM Larratt
BA McClean
*AJB McEwan
*JDS McKean
*GG Miller
*RG Pearcey
*A Schepansky
*RS Sloboda
*M Weinfeld

Clinical Professors
*MS McPhee
*J Turc

Associate Clinical Professors
*WR Castor
*Z Catz
*PA Gordon
*FI Jackson
*M Koch
*RN Ludwig

Assistant Clinical Professors
*LN Takats
*DJ Tusz
*EE Wiens

Clinical Lecturers
*I Birchall
*MG Nutting
*HJ Stockburger

Professors Emeriti
*JS Colter
*JCW Hopkyns
*JG Pearson

Honorary Professor
*SR Usiskin

Honorary Associate Professor
*WT McGaw

Physical Medicine and Rehabilitation Medicine

Director
*LA Bellamy (Associate Professor)

Professor
RM Feldman

Associate Clinical Professor
JA Nicas

Assistant Clinical Professors
DJ Carroll
T Hardin
JM Nagy
E Veszpremi
*M Watt

Clinical Lecturers
RS Burnham
*LE Gross

Provincial Laboratory of Public Health

Director
*WL Albritton (Professor)

Associate Director
*RG Marusyk (Professor)

Associate Professor
AS Sekhon

Administrative Officers
*RDO Devine
*AT Kerr
*ES Prasad

Associate Academic Staff
*AE Fanning
*KT Kowalewska-Grochowska
* B Romanowski
*DE Taylor
*DLJ Tyrrell
*WM Wenman

Consultants
*PC Kibsey
*JK Preiksaitis
D Zoutman

Studies in Medical Education

Director
*DA Cook

Associate Director
N Brown

Associate Professor
EN Skakun

121.1.3 Anaesthesia

Chair
BT Finucane (Professor)

Professor
*AS Clanachan

Assistant Professors
RC Etches
BA Finegan
T Hackman

Associate Clinical Professors
KL Carle
MXM Coughlan
D Dobson
DB DuVal
LM Entwistle
SM Ferreira
RC Gregg
LR Hatch
RM Humble
LJ Huston
RG Johnston
R Kozody
BE Marchak
FJ Mensink
JG Purdell-Lewis
DD Vincent

Assistant Clinical Professors
BJ Bucyk
DG Comm
DJ Cubitt
DR Gamez
AS Guest
IA Hopkins
LY Huang
V Jensen
JT Lilley
BA Lyder
JD McFarland
KA Munn
WJ Murtha
SG Nadeau
CJ Noble
SA Olson
YM Patel
T Pimblett
H Reine
JJ Scales
SL Scott
RF Seal
DH Wiebe

Clinical Lecturers
LB Baron
MH Bercovich
K Cernohorsky
PG Cisar
BPV Delbecq
JM Dupuis
JF Farley
DA Hardy
J Kallmeyer
AI MacDonald
M Martin
K Martindale
DA Mercereau
JA Moir
GA Perez
BZ Petriw
ZS Saleh
OJ Schneider
C Tang
RE Whiting

Clinical Instructor
CD Voyce

Professors Emeriti
DF Cameron
EA Gain
JWR McIntyre
GT Moonie

121.1.4 Anatomy and Cell Biology

Chair
RA Murphy (Professor)

Professors
TS Leeson
KD McFadden
R Smith

Associate Professors
KM Bagnall
GR Buzzell
RB Campenot
TL Krukoff
BR MacPherson
H Melax
NC Milos
DN Singh

Assistant Professors
AL Acheson
FD Miller
M Pasdar
BR Stevenson

Faculty Service Officer
V Chlumecky

Administrative Officer
AH Walji

121.1.5 Applied Sciences in Medicine

Chair
PS Allen (Professor)

Professors
*DPJ Boisvert
D Fenna
DJ Griffiths
*CH Harley
ZJ Koles
TR Overton
*R Smith
CI Stuart

Associate Professor
RE Snyder

Assistant Professors
C Hanstock
*RH Hooper

Faculty Service Officers
DC Ellinger
DM Gupta

Adjunct Assistant Professor
CJ Lind

121.1.6 Biochemistry

Chair
WA Bridger (Professor)

Professors
RC Bleackley
DN Brindley
CE Cass
JF Henderson
RS Hodges
MNG James
CM Kay
NB Madsen
RN McElhaney
DG McFadden
RA Morgan
VH Paetkau
W Paranchych
ARP Paterson
*MC Paterson
WJ Schneider
DG Scraba
LB Smillie
BD Sykes
*DLJ Tyrrell
DE Vance
JH Weiner

Associate Professors
*M Michalak
JC Stone

Assistant Professors
M Ellison
R Godbout
CFB Holmes
BD Lemire
*RJ Read
SA Rice
RO Ryan
CA Spencer

Professor Emeritus
JS Colter

Sessional Instructor
IT Fecycz

Faculty Service Officers
C Upton
WT Wolodko

Administrative Officer
GM Redmond

Adjunct Professor
LW Brox

121.1.7 Family Medicine

Chair
DG Moores (Professor)

Professors
GL Higgins
JV Mackel

Associate Professors
NR Bell
R Brownoff
RG Chaytors
EH Krikke

Assistant Professors
FR Brenneis
MG Donoff

Clinical Professors
*HFA Azim
SA Smith

Associate Clinical Professors
KJ Gardener
H Hays
CJ Lord

Assistant Clinical Professors
DW Armstrong
SK Aung
AE Ausford
HA Borkent
SH Boutros
RS Brooks
DE Brox
GK Campbell
RA Dlin
JG Gokiert
S Hughes
PJ Klemka
MR Kutzner
J Marche
DM McElgunn
MJ Miller
C Neal
JA O'Brien
EW Papp
DC Perry
WJ Pidde
JG Reilly
EP Schuster
CE Sharek
DL Shragge
RM Smith
IP Steiner
JC Taylor
JA Triscott
AF Walker
JC Woodman

linical Lecturers
Andruchow
Blais
MM Bodmer
W Bond
Boyko
W Bradstock
J Brown
G Brown
R Bunten
JR Burns
Burridge
W Chambers
A Cherniwchan
T Chimich
F Chiu
P Chrzanowski
E Clelland
Colliton
J Cook
E Cummings
MB Davidson
GM Evans
J Ferguson
G Ferland
Flook
Y Fong
Ghali
N Gramlich
A Griswold
J Groot
N Gushaty
E Henderson
E Holmes
W Jakeway
J Jarema
G Johnston
B Kaasa
Kamdar
C Kash
Klein
W Korzenowski
W Kreptul
M Lazaruk
Lee
W Lemke
S Loewen
E Low
A Lytviak
J MacQuarrie
A Marner
F McGovern
D Miskew
G Moss
R Murray
S Myrholm
D Neilson
B Newton
Nixon
E Olson
Paludet
GO Parrish
L Phillips
P Poitras
E Polack
A Poplawski
A Purser
R Ranieri
S Rankin
L Read
M Regehr
A Reid
J Rempel
D Ritchie
M Robinson
Sachs
Schiebel
J Siwak
D Sosnowski
F Stetsko
F Stewart
E Swanson
R Tilley
H Turner
Van De Pol
W Walker
R Walker
L Wansbrough
D Ward
RB Whittaker
CK Yong
J Young
R Young
R Zetter

rofessor Emeritus
R Cherry

aculty Service Officer
Szafran

121.1.8 Health Services Administration and Community Medicine

Chair
CB Hazlett (Professor)

Professors
KS Bay
TL Guidotti
*GL Higgins
SE Hrudey
P Jacobs
JW Markham
TA McPherson
CA Mellicke
CL Soskolne
SM Stinson

Associate Professors
J Berkel
PA Hessel
LM Laing
*SC Newman
RH Plain
LD Saunders
K Yoshida

Assistant Professor
G Flowerdew

Lecturers
JR Christie
DJ Philippon
HE Rennebohm

Clinical Professors
JM Howell
MR Joffres

Assistant Clinical Professors
*GP Dowling
*TJ Paton
*JC Taylor

Professor Emeritus
*LC Grisdale

Honorary Professor
*LE McLeod

Adjunct Professors
DF Adcock
BC Alleyne
DA Birkholz
LJ Breault
PI Bullock
JI Cheng
YM Cheung
R Coombs
RA Copes
JWF Cowell
L Curry
WA Dartnell
SM Fincham
EL Fischer
GW Gibbs
D Gibson
DF Goldsmith
GC Granville
KM Grimsrud
LE Gross
FP Harrison
DJ Hart
GP Hiebert
KW Hodgins
RL Innes
GG Jamieson
MR Johnson
JD Johnston
DJ Junk
GM Kerr
M Koch
NN Kotani
LL Kulak
V Lai
PD Langelle
RL LeBlanc
JC Lozon
DA Macgregor
DJ Marshall
RC May
GR McLeod
K Mills
AD Mitchell
L Munan
AI Murdock
KR Nickerson
LR Ohlhauser
KS Pain
FG Picherack
JG Pincock
MG Prior
M Raasok
J Rapoport
JG Read
CN Reimer
RE Rogers
DP Schurman
LK Smith
B Snell
JL Storch
H Walker
LL Wilson
KKY Yu

121.1.9 Immunology

Chair
T Mosmann (Professor)

Professors
*PF Halloran
BM Longenecker
*VH Paetkau
LM Pilarski
*A Rabinovitch
B Singh
TG Wegmann

Associate Professor
LJ Guilbert

Assistant Professors
M Belosevic
*DY Kunimoto

Professor Emeritus
E Diener

Administrative Officer
JE Dillon

121.1.10 Medical Microbiology and Infectious Diseases

Chair
DLJ Tyrrell (Professor)

Professors
WL Albritton
*G Goldsand
*RPB Larke
RG Marusyk
*W Paranchych
JA Robertson
DE Taylor
*JK Weiner
*WM Wenman

Associate Professors
GD Armstrong
RT Irvin
*LJ Miedzinski
MS Peppler
*JK Preiksaitis
*AS Sekhon
*L Sigler
RLS Whitehouse

Assistant Professors
*M Belosevic
JF Elliott
*R Kaul
PC Kibsey
KT Kowalewska-Grochowska
DY Kunimoto
RJ Read
*GD Taylor
*W Vaudry

Lecturer
JA Talbot

Clinical Professors
*GS Hnatko
SI Hnatko

Associate Clinical Professor
*B Romanowski

Professors Emeriti
JW Carmichael
FL Jackson
OEZ Morgante

Faculty Service Officer
*KKY Yu

Administrative Officer
M Wohlebe

Adjunct Professors
JN Campbell
T Kaneda

MJ Robins
KL Roy
G Stemke

121.1.11 Medicine

Chair
EG King (Professor)

Assistant Professor
SJ Allan

Associate Clinical Professor
KC Bowering

Assistant Clinical Professors
PL Chiu
RN Roberts
C Tai
*JA Triscott

Honorary Professor
*EI Picard

Administrative Officers
BK Esslinger
JC Morrison

Adjunct Professors
T Enta
ML Garg
*MG Grace

Cardiology

Director
TJ Montague (Professor)

Professors
C Basualdo
M Haraphongse
BI Jugdutt
PM Rautaharju
RE Rossall

Associate Professors
JR Burton
SS Gulamhusein
FX Witkowski

Assistant Professors
NJ Davies
KM Kavanagh
AR Lucas
KK Teo
WJ Tymchak

Lecturer
DA Taylor

Clinical Professor
WR Black

Associate Clinical Professors
PV Greenwood
PW Klinke
G Kubac

Assistant Clinical Professors
WKK Hui
Z Lakhani
T Talibi

Clinical Lecturer
MPJ Seneratne

Professor Emeritus
RS Fraser

Adjunct Professor
RF Haennel

Clinical Hematology

Director
AR Turner (Associate Professor)

Professor
MJ Mant

Associate Professors
A Belch
K Wong

Assistant Professors
A Janowska-Wieczorek
LM Wyrratt

Lecturer
LK Boshkov

Clinical Professors
*PA Gordon
J Turc

Associate Clinical Professor
A Khaliq

Assistant Clinical Professor
JL Hannon

Dermatology and Cutaneous Sciences

Director
K Jimbow (Professor)

Assistant Professor
WT Dixon

Clinical Professor
J Brown

Associate Clinical Professors
DW Groot
NA Jampolsky
EH Schloss
OS Talpash

Assistant Clinical Professors
AL Krol
JY Liao
RD Prokopetz
MB Rogers
DM Sawyer

Clinical Lecturer
JV Kulak

Endocrinology and Metabolism

Director
J Ginsberg (Associate Professor)

Professors
PM Crockford
AM Edwards
DM Fawcett
GD Molnar
A Rabinovitch
RV Rajotte
S Yokoyama

Associate Professors
*DC Cumming
*S Harvey
SE Jacobs
WA McBlain
DW Morrish
EA Ryan
*JZ Scott

Assistant Professors
CLY Chik
K Siminoski
J Vance

Clinical Professor
RN Eidem

Clinical Lecturer
R Lewanczuk

Professors Emeriti
GD Brown
DR Wilson

Gastroenterology

Director
ABR Thomson (Professor)

Professor
MT Clandinin

Assistant Professors
VG Bain
RD Cherry
RN Fedorak
BR Yacyshyn

Clinical Professors
RW Sherbaniuk
RH Wensel

Assistant Clinical Professors
JP Ferguson
MS Millan
DN Todoruk

Associate Clinical Professor
CM Switzer

Clinical Lecturer
HM Estrin

General Internal Medicine

Director
LM Anholt (Professor)

Professors
AM Edwards
CH Harley
RN MacDonald

Associate Professors
IA Ferguson
TW Noseworthy
*A Yeung

Assistant Professors
DM Gilchrist
PG Hamilton
LM Larratt

Lecturer
R Hayward

Clinical Professors
RN Eidem
GF MacDonald
JM Ryan
CJ Varvis
S Weisz
JV Williams

Associate Clinical Professors
JM Goodhart
DW Irving
RE Lefebvre
JT McCaffery
PC Mendes
CG Ramsey

Assistant Clinical Professors
A Cairns
DA Campbell
BH Danial
DLC Judge
E Kretzul
MS Millan
MG Nutting
CC Robertson
LN Takats
DJ Tusz
L Van den Berg

Clinical Lecturers
VR Chichak
L Estrin
LER Malowany
ELC Muttitt
LD Te

Professors Emeriti
F Elliott
JAL Gilbert
JCW Hopkyns
E Romanowski

Geriatrics

Director
PN McCracken (Professor)

Assistant Professors
P McGann
MG Robson

Clinical Lecturer
L Estrin

Adjunct Professor
BG Rule

Adjunct Assistant Professor
I Kiss

Immunology and Nephrology

Director
PF Halloran (Professor)

Professors
JB Dossetor
*FL Harley
CMF Kjellstrand
T Kovithavongs
RA Ulan
DR Wilson

Associate Professors
KB Bettcher
MK Dasgupta
IA Ferguson
T Kovithavongs (Professor)

Associate Clinical Professors
RE Lefebvre
*F Pazderka

Clinical Lecturers
D Echeverri
MWT Lee

Infectious Diseases

Director
LJ Miedzinski (Associate Professor)

Professors
G Goldsand
*DLJ Tyrrell

Associate Professors
EA Fanning
JK Preiksaitis

Assistant Professors
SC Houston
*Dy Kunimoto
SD Shafran
GJ Sheehan
GD Taylor

Associate Clinical Professors
B Romanowski
*JR Waters

linical Lecturer
R Boychuk

ledical Oncology

irector
Belch (Associate Professor)

rofessors
N MacDonald
TA McPherson

ssociate Professors
LA Fields
S Fulton
D MacLean
R Turner
M Venner

ssistant Professor
M Bruera

leurology

irector
IH Brooke (Professor)

rofessors
Jacobs
/R Martin
R McLean
G Warren

ssociate Professors
IG Elleker
S Fulton

ssistant Professors
H Jhamandas
MW Penn

linical Professor
F Wilson

ssociate Clinical Professor
Starreveld

ssistant Clinical Professors
VJ Vanast
J Witt

linical Lecturer
Marynowski

rofessor Emeritus
Monckton

djunct Professor
A Warren

ulmonary Medicine

irector
PF Man (Professor)

rofessors
A Herbert
L Jones
G King
J Sproule

ssociate Professors
E Brown
/C Hulbert
C Man
L York

ssistant Professor
J McDonnell

linical Professors
H Aaron
F MacDonald
J Varvis
V Williams

ssociate Clinical Professors
/J Dickout
TN Gibney
K Lee
W Noseworthy
E Stollery

ssistant Clinical Professors
H Ahmed
S Archibald
IK Heule
Marcushamer
J Nobert
Shustack

heumatology

irector
S Russell (Professor)

rofessors
Davis
S Percy

ssistant Professor
L Aaron

Associate Clinical Professor
AA Fitzgerald

Clinical Lecturer
SA LeClercq

121.1.12 Obstetrics and Gynaecology

Chair
BF Mitchell (Professor)

Professors
DC Cumming
DL Dunlop
*NN Finer
*LH Honore
*D Schiff

Associate Professors
NN Demianczuk
JZ Scott
DK Still

Assistant Professors
VA Capstick
A Schepansky

Clinical Professors
J Boyd
RA Day
KH Finzer
J Marko
FH Morcos
R Ostolosky
DWJ Reid
RW Winter

Associate Clinical Professors
JJ Boulton
SW Devine
LG Evenson
PC Fung
CF Hoskins
DJ Moyer
TN Traff
HR Uretsky
NWF Weir
A Westgate

Assistant Clinical Professors
DM Buchanan
CES Burnett
VR Gailiunas
P Hudson
G Iwaniuk
SR Langton
M Lieberman
KE Pearse
JG Sabourin
SN Schuurmans
IV Tataryn

Clinical Lecturers
GL Black
RC Black
RA Chamberlain
R Chua
SJ Genuis
DG Hodges
PE Lucien
M Mah
CO Mayo
KA Micetich
HD Mueller
*WR Young

121.1.13 Ophthalmology

Chair
HT Wyatt (Professor)

Professors
*BE Mielke
WG Pearce

Assistant Professor
GT Drummond

Clinical Professors
RA Morgan
KH Shutt

Associate Clinical Professors
J Buski
GD Grant
RLC Johnson
FL Leong-Sit

Assistant Clinical Professors
WF Astle
D Climenhaga
EJ Hodges
LM Uniat

Clinical Lecturers
DS Cote
EAS Fernandes
GA Grieve
RE Harris
*MR Kutzner
*ME Paetkau
*WJ Pidde
LF Smith

Professor Emeritus
TAS Boyd

Adjunct Professor
JK Lauber

121.1.14 Paediatrics

Chair
PM Olley (Professor)

Professors
JJ Akabutu
RL Collins-Nakai
NF Duncan
NN Finer
EW Gauk
JC Godel
FL Harley
AB Jones
RPB Larke
*CC Lin
HF Pabst
D Schiff
WC Taylor
WM Wenman

Associate Professors
PC Etches
GD Lopaschuk
M Michalak
*PA Penkoske
CMT Robertson
AC Rouget
DW Spady

Assistant Professors
D Andrews
C Baxter
P Byrne
SJ Desai
P Ferreira
L Fliegel
M Gayle
P Grundy
R Kaul
W Koo
L McGonigle
SC Muttitt
A Peliowski
MA Robertson
CA Ryan
L Smith
AJ Tierney
JE Van Aerde
W Vaudry

Clinical Professors
*JD Fischer
DJ Hasinoff
KR Miller
*WG Pearce
GW Selby
DR Shea
AR Stewart
MI Tedeschini
OA Ulan

Associate Clinical Professors
*GM Lees
F Martin
LF Martin
RR Moriartey
R Ocejo-Moreno
*TJ Paton
JW Popowich
EM Rabinovitch
RB Schmidt
SJ Tkachyk
*JR Waters
M Watt

Assistant Clinical Professors
D Berry
I Buka
R Chen
*KT Ciesielski
AG Conradi
*NJ Davies
S Galante
K Lee

J Lopatka
BA Malinowski
GA Ortega
HR Rajani
ML Ramji
KS Wong
WT Wu
PC Zuberbuhler

Clinical Lecturers
BA Behrmann
SL Bhambhani
AM Darwish
LJ Dibden
DM Hetherington
PJ Metcalf
PM Pierse
AR Reichert
G Sukhrani
JT Woods

Professors Emeriti
HB Armstrong
LC Grisdale
EE McCoy

Faculty Service Officer
G Chan

Administrative Officer
MM Langer

Adjunct Professor
R Lang

Critical Care Medicine

Director
NN Finer (Professor)

Associate Professor
PC Etches

Assistant Professors
K Barrington
P Byrne
M Gayle
A Peliowski
AJ Tierney

Infectious Diseases

Director
WM Wenman (Professor)

Professor
RPB Larke

Assistant Professors
R Kaul
W Vaudry

Medical Genetics

Acting Director
P Ferreira

Professors
P Bowen
*CC Lin

Assistant Professors
I Bamford
S Bamforth
*DM Gilchrist

Clinical Professor
*WG Pearce

Paediatric Cardiology

Director
NF Duncan

Professors
RL Collins-Nakai
PM Olley

Associate Professor
*PA Penkoske

Assistant Professor
MA Robertson

Associate Clinical Professor
*PA Penkoske

Neonatology

Director
P Byrne (Assistant Professor)

Professor
D Schiff

Assistant Professors
K Barrington
SC Muttitt

121.1.15 Pathology

Chair
K Solez (Professor)

Professors
LH Honore
LD Jewell
*K Jimbow
CC Lin
GA Machin
LE McGann
BE Mielke
S Poppema
GB Schumann
RJ Swallow

Associate Professors
ES Johnson
G Nguyen
*AR Turner

Assistant Professors
JC Hugh
N Parfrey
RF Power

Lecturers
J Dakin
Y Fan
L Jackson
FL Jajczay
GR Jones
V Manickavel
R Sasi

Clinical Professors
HE Bell
*DM Fawcett
PA Gordon
S Hanson
J Jacques
TA Kasper
HW Letts
PKF Petrik
MR Reesal
DG Young

Associate Clinical Professors
JM Danyluk
DTF Dawson
AJ Derbawka
RC Kasper
ML Salkie
T Thay
*J Turc
DJ Willans

Assistant Clinical Professors
RJ Audette
RC Berendt
JE Coates
SD Coret
JW Culver-James
AJ Dinwoodie
GP Dowling
WS Etches
*P Ferreira
TE Higa
RG Hodkinson
GH Johnson
DF LeGatt
DM Morrison
KD Vaughan

Professors Emeriti
GO Bain
TK Shnitka

Honorary Associate Professor
WT McGaw

Administrative Officer
JA Marken

Adjunct Professor
SK Malhotra

Clinical Laboratory Medicine

Director
K Walker (Clinical Professor)

Lecturers
J Dakin
FL Jajczay

Clinical Professors
*DM Fawcett
PA Gordon

Associate Clinical Professors
RJ Audette
ML Salkie

Assistant Clinical Professors
FJ Bamforth
JE Coates
AJ Dinwoodie
WS Etches
DJ Ferguson
DF LeGatt

Medical Laboratory Science

Acting Director
RA Stinson (Professor)

Associate Director
PA Gordon (Clinical Professor)

Assistant Professors
*P Ferreira
PL Letendre

Lecturers
R Cunningham
M Fraser
JL McPhee
BA Ohashi
Z Reghelini
EE Rivait
C Robblee
A Williams

Clinical Professor
K Walker

Associate Clinical Professor
ML Salkie

Assistant Clinical Professors
AJ Dinwoodie
DJ Ferguson

Professor Emeritus
HB Collier

121.1.16 Pharmacology

Chair
DA Cook (Professor)

Professors
TM Allen
AS Clanachan
WF Dryden
GB Frank
T Gordon
*ARP Paterson
RJ Reiffenstein
PA Smith

Associate Professors
SMJ Dunn
J Elbrink
*K Wong
A Yeung

Assistant Professors
WF Colmers
WP Gati
*GD Lopaschuk

Lecturer
BA Bielkiewicz-Volfrath

Professors Emeriti
RM Henderson
*ARP Paterson

Administrative Officer
JC Deuel

Adjunct Professor
MW Wolowyk

121.1.17 Physiology

Chair
PKT Pang (Professor)

Acting Chair
EJ Saunders (Professor)

Professors
CI Cheeseman
AS French
S Harvey
KJ Hutchison
KG Pearson
MJ Poznansky
A Prochazka
RB Stein
JD Young

Associate Professor
SC Barton

Assistant Professors
CG Benishin
RC Berdan
AKC Ho

Professors Emeriti
EO Hohn
M Schachter

culty Service Officer
Karpinski

Iministrative Officer
M Findlay

ljunct Professor
L Jones

21.1.18 Psychiatry

air
Bland (Professor)

ofessors
Baker
G Dewhurst
Hays
E Piper

sociate Professors
Greenshaw
Newman
Sinha

sistant Professors
Dick
G Griener
G Hnatko
V Kitchen
Martin-Iverson
McKenna

inical Professors
A Azim
Flor-Henry
Jacobs
Levin
M Wojcicki

sociate Clinical Professors
M Adams
M Barker
Blackman
N Blashko
M Carroll
E Copus
N Cornish
F Fairbairn
King
G Lakoff
D Milliken
Mills
VH Nixon
G Phillips
M Segal
Starreveld
Turner
Warneke
D Watson
F Wilson

sistant Clinical Professors
VS Angus
Beach
Bishop
M Boardman
M Collinson
P Costigan
Davies
Drebit
Dyck
G Ekisa
D Gendemann
Gill
M Ginter
Gordon
V Grover
N Hapchyn
E Hibbard
Hontela
Lefsrud
Lobo
D Lundeen
Martin
A McCay
V Meakins
O'Kelly
M Osinchuk
F Otto
GO Parrish
Pascoe
M Piktel
D Rampling
Rosie
G Sanderman
M Schwab
Scott
Snyder
Sowa
M Tapper
P Usha
JB Van Stolk
DMK Williams
*NJ Witt
CM Yaltho

Clinical Lecturers
O Cadsky
AG Dawrant
BR Eades
DR Guinhawa
RA Gurke
BJ Hutchison
N John
DMC Johnston-Fader
AS Joyce
JF Keegan
JL Kolada
G Lefebvre
R Maitra
S Matthews
M McCallum
MG McIntosh
ST Mlynczak
MB Parsons
C Phillips
JK Rodgers
F Shen
*SA Smith
LH Studer
PK Sullivan
L Trichard
M Tweddle
J Ustina
LT Van Zyl

Professors Emeriti
G Hopkinson
JW Urschel
TE Weckowicz
KA Yonge

Honorary Professor
EI Picard

Administrative Officer
LC Hein

Adjunct Professors
RA Bornstein
RT Coutts
AB Douglass
*RA Lang

121.1.19 Radiology and Diagnostic Imaging

Chair
DB Russell

Assistant Professor
*J Scott

Associate Clinical Professor
MK Hirji

Clinical Lecturer
I Birchall

Diagnostic Radiology

Director
DB Russell (Professor)

Professor
*TR Overton

Assistant Professor
LJ Filipow

Clinical Professors
*W Beamish
WR Castor
JDR Miller

Associate Clinical Professors
RW Arnold
PG Heslip
FI Jackson
M Johnson
RN Ludwig
*JT Mason
JH Phillips

Assistant Clinical Professors
SR Adams
GE Andrew
RA Ashforth
MJ Babiuk
BL Caplan
K Cheung
LG Dunbar
DA Foster
RC Hennig
M Hutson
GW Kindrachuk
RGW Lambert
G Lauf
AM MacPherson
M O'Keefe
I Oates
EG Parkinson
D Reich
WL Ritchie
MT Sin
TC Spiers
JF Swersky
TJ Terry
GJ Turner
DB Vickar
RS Warshawski

Clinical Lecturers
TW Alexander
WW Anderson
WH Berezowsky
J Bernier
RHK Chan
CM Copeland
CG Elias
B Guspie
RGS Hett
JC Hickerty
N Horeczko
LA Kollar
LM Kowand
KR Kristjanson
NE Maslo
EM McMartin
EW Miller
D O'Keeffe
EJ Preville
K Puznak
SA Rao
DA Schamchuk
TH Siwak
GD Sterling
AS Tang
GP Trepanier
GJ Welsh
PL Yan

Honorary Professor
*MG Grace

Honorary Clinical Professor
RM Clare

Nuclear Medicine

Director
AJB McEwan (Assistant Professor)

Assistant Professors
HR Hooper
*DP Humen
JR Scott

Associate Clinical Professors
RW Arnold
Z Catz

Radiation Oncology

Acting Director
RG Pearcey (Assistant Professor)

Professors
GA Glazebrook
AAE Starreveld
RC Urtasun

Associate Professors
AJ Franko
AW Lees
DG McGowan
JE Pederson

Assistant Professors
MJ Allalunis-Turner
CE deMetz
EE El-Khatib
N Jha
GG Miller
RS Sloboda
M Weinfeld
BD Willan

Lecturers
S Connors
BE Krause
B McLean

Professor Emeritus
JG Pearson

Honorary Professor
JW Scrimger

121.1.20 Surgery

Chair
BK Weir (Professor)

Professor
DPJ Boisvert

Clinical Lecturers
AH Hayashi
WJ Orrom

Faculty Service Officer
MM Chambers

Administrative Officer
TM Bridgeman

Adjunct Professors
MG Grace
YJ Kingma

Critical Care Medicine

Assistant Professor
SM Hamilton

Experimental Surgery

Director
*RV Rajotte (Professor)

Professors
DPJ Boisvert
JC Russell
PG Scott

Associate Professors
*WA McBlain
GL Warnock

Professors Emeriti
KP Kowalewski
DC Secord

General Surgery

Director
WW Yakimets (Professor)

Professors
KL Bowes
PA Salmon
OG Thurston
HTG Williams

Associate Professor
J Koo

Assistant Professor
NM Kneteman

Clinical Professors
JE Anselmo
GF Bondar
RJ Bury
JD Fischer
RE Fraser
MC Hunting
MM Laskin
W Pisesky
HJ Stockburger

Associate Clinical Professors
PD Davey
RM Hackett
RA Hallgren
GM Lees
JF Mossey
AW Procyshyn
HL Stewart
EE Wiens

Assistant Clinical Professors
DO Adams
M Besney
SF Cox
RG Davis
MH Friedman
BW Johnson
VW Kumpula
WJ Mackie
LJN Millette
EK Schmidt
J Siegenberg
WM Struck
TW Theman
KB Wiancko

Clinical Lecturers
D Callahan
M Cattral
RE Nason
A Prakash

Professors Emeriti
WS Anderson
S Kling
RAL Macbeth
GW Scott

Neurosurgery

Director
KC Petruk (Clinical Professor)

Professors
*KJ Hutchison
*TR Overton
J Tulip
BK Weir

Associate Professor
NL Stockbridge

Clinical Professor
P Allen

Associate Clinical Professor
JDS McKean

Assistant Clinical Professors
KE Aronyk
RM Broad
JM Findlay
WJ O'Callaghan

Orthopaedic Surgery

Director
MJ Moreau (Associate Clinical Professor)

Professors
LA Davis
D Reid

Clinical Professors
RM Glasgow
JR Huckell

Associate Clinical Professors
GW Cameron
J Gort
DWC Johnston
WM Rigal

Assistant Clinical Professors
GD Arnett
PR Boucher
TH Greidanus
JH Harvey
LE Hunka
KW James
MV Lavoie
DJ Makar
JB McIvor
AH McKenzie
JF McMillan
KJ Russell

Clinical Lecturers
D Dick
GJ Lavoie
PMK Leung
JK Mahood
GJ O'Connor

Professor Emeritus
O Rostrup

Otolaryngology

Director
DJ Oldring (Clinical Professor)

Associate Clinical Professors
JP Cuyler
WH Kudryk

Assistant Clinical Professors
AR Backstrom
DK Brown
CS Carter
JC DiToppa
AJ Lupin
GJ Misko

Clinical Lecturers
OM Bykowski
LT Diduch
JTF Keohane
JA Kostiuk
MM Starko

Plastic Surgery

Director
GW Lobay (Clinical Professor)

Professor
*LE McGann

Assistant Professor
A Gahary
EE Tredget

Clinical Professor
JDM Alton

Associate Clinical Professors
GL Moysa
GH Wilkes

Assistant Clinical Professors
D Campbell
MJ Giuffre
MJ Haugrud
T Hayashi
HJ Shimizu

Clinical Lecturers
D Edwards
G Louie
ME Mickleborough

Thoracic and Cardiovascular Surgery

Director
DL Modry (Associate Clinical Professor)

Clinical Professors
JC Callaghan
ET Gelfand

Associate Clinical Professors
DN Chin
SS Nakai
PA Penkoske
LP Sterns

Assistant Clinical Professor
*DD Vincent

Clinical Lecturer
*J Kallmeyer

Urological Surgery

Director
MS McPhee (Clinical Professor)

Professors
*DJ Griffiths
WH Lakey

Associate Clinical Professor
LM Dushinski

Assistant Clinical Professors
RC Boake
B Bochinski
BJ Donnelly
TC Eid
MJ Allard
SM Robinson

Professor Emeritus
J Metcalfe

121.1.21 Additional Members of Faculty Council

President and Vice-Chair
P Davenport, PhD

Representatives
GA Chambers (Faculty of Science)
CR James (Vice-President Research)
RE Moskalyk (Dean of Pharmacy)
MJ Wood (Dean of Nursing)
M Piper (Dean of Rehabilitation Medicine)
LR Ohlhauser (Registrar, College of Physicians Surgeons)
RA Burns (Alberta Medical Association)
S Chetner (Medical Librarian)
J Turc (Alberta Cancer Board)
M Spence (Alberta Heritage Foundation for Me Research)
L Evenson (Charles Camsell Hospital)
ALA Field (Cross Cancer Institute)
JG Read (Edmonton General Hospital)
DC Perry (Misericordia Hospital)
T Noseworthy (Royal Alexandra Hospital)
PBR Allen (University of Alberta Hospitals)
D Schurman (University of Alberta Hospitals)
DM Paton (Faculty of Dentistry)
JG Purdell-Lewis (Glenrose Rehabilitation Hospital)
R Wensel (University of Alberta Hospitals)

Registrar of the University
BJ Silzer, MEd

121.2 General Information

The Faculty of Medicine of the University of Al was established in 1913 and until 1922 conduct three-year undergraduate medical program in the l medical sciences.

In 1923 a full program of clinical instruction b and the first Doctor of Medicine degrees were awa in 1925.

The Faculty of Medicine conducts the follo programs:

(1) fully accredited four year program leading t degree of Doctor of Medicine. At least two medical years at university are required b admission to this program.

(2) A program whereby students in the MD pro who fulfill specified requirements in research receive the degree of Doctor of Medicine Honors in Research."

A four-year program leading to the degree of Bachelor of Science in Medical Laboratory Science, which may be entered at the matriculation level.

A one-year program to be taken in addition to the MD program leading to the degree of Bachelor of Science in Medicine.

A program whereby students in the MD Program who fulfill specified requirements may be awarded the Bachelor of Medical Science degree at the conclusion of their second year in the MD program.

At the graduate level, programs leading to the degree of Master of Science or Doctor of Philosophy. Also programs leading to the degree of Master of Health Service Administration or the Diploma in Health Service Administration.

Programs leading to eligibility for specialist qualification by the Royal College of Physicians and Surgeons of Canada are offered in cooperation with affiliated hospitals in all clinical specialties.

An extensive program of continuing medical education for physicians practising in Northern Alberta.

Details of each of these programs are outlined in 3 below.

1.3 Affiliated Hospitals and Institutions

1.3.1 Affiliated Hospitals

The primary teaching hospitals of the Faculty of dicine are the University of Alberta Hospitals which located on the university campus.

The University has formal Affiliation Agreements h six city hospitals: Royal Alexandra Hospital, Gen- l Hospital (Grey Nuns) of Edmonton, Misericordia spital, Glenrose Provincial Hospital, Charles Camsell vincial Hospital and Cross Cancer Institute. These spitals actively participate in the undergraduate and duate teaching programs of the Faculty. The hospi- are represented on the Council of the Faculty of dicine and the Faculty has a representative on the verning Board of each hospital.

By special arrangement and affiliation agreement ne undergraduate and graduate training is conducted the Alberta Hospital, Ponoka; the Alberta Hospital, monton; St. Mary's Hospital, Camrose; Canmore General spital, Canmore; and the Red Deer General Hospital, d Deer.

1.3.2 Northern Health Services Program

Through an affiliation with the Department of Health he Government of NWT a regular rotation of clinical ulty and residents to Inuvik and the Arctic coastal as (Mackenzie Area Ambulatory Program) is main- ed. The Mackenzie Area Ambulatory Program covers mbridge Bay and the surrounding settlements of Gjoa ven, Spence Bay, Pelly Bay, Coppermine, and Holman and.

1.3.3 The University of Alberta — Family Practice Units

Ambulatory patient facilities, specifically designed undergraduate and graduate education in family ctice, are located at the Grey Nuns, Royal Alexandra, d Misericordia Hospitals. These "Family Clinics" pro- e medical and other health science students with an portunity to participate in the provision of comprehen- e and continuing health care to a representative tion of the community under the supervision of mbers of their respective faculties.

1.3.4 The University of Alberta Surgical-Medical Research Institute

The University of Alberta Surgical-Medical Research titute offers facilities including operating room serv- s for large and small animals, and a Histology and chemistry laboratory for members in the Faculty of dicine and other faculties on campus. Scanning and nsmission EM facilities are also located in the Surgi- -Medical Research Institute. Projects are conducted under the supervision and direction of members of the Faculty. The Institute offers four postgraduate courses, three of which are prerequisites for the MSc and PhD degrees in experimental surgery, as well as a microvascular surgery course.

121.3.5 The University of Alberta Cancer Research Group (McEachern Laboratory)

The McEachern Laboratory was a gift to the University of Alberta by the Canadian Cancer Society (Alberta Division). The Laboratory, which occupies 10,000 net square feet in the Medical Sciences Building, accommodates the laboratory programs in several areas of cancer research supported by the National Cancer Institute of Canada, the Medical Research Council, and the Alberta Heritage for Medical Research. Senior members of the McEachern Laboratory hold academic appointments in the Department of Biochemistry. Graduate students are accommodated in the Laboratory through departmental affiliations of academic staff members and opportunities for postdoctoral training are available.

121.4 Internship and Licensure

Internship

Medical graduates of the University of Alberta complete a clinical clerkship (student internship) meeting the requirements of the Federation of Provincial Licensing Authorities. Students graduating in 1975 and subsequently and seeking licensure in Alberta must comply with the requirements of the College of Physicians and Surgeons of Alberta by completing two years of appropriate postgraduate training.

Internship placement is usually arranged through the Canadian Intern Matching Service. Details are provided to final year students.

Educational Register

While taking a student internship, medical students are required to be registered on the Educational Register of the College of Physicians and Surgeons of Alberta. This registration provides limited medical practice privileges in the hospital to which the student is assigned and for the period of assignment only.

All postgraduate students in the Province of Alberta are required, by provincial legislation, to be registered on the Educational Register of the College of Physicians and Surgeons of Alberta. This registration permits the practice of medicine within the hospital designated on the registration. Graduates in residency programs in Alberta who are not licensed registered practitioners in the province are similarly required to be registered on the Educational Register. Application should be made to the Registrar, College of Physicians and Surgeons of Alberta 9901-108 St., Edmonton, Alberta, T5K 1G9.

Requirements for Licence to Practice

After graduates of the University of Alberta have satisfactorily completed an appropriate period of postgraduate training as determined by the Provincial Licensing Authority they are entitled to be licensed by the College of Physicians and Surgeons of this province and are eligible for provincial registration. To become licensed in any other province it is necessary to have passed the qualifying examinations of the Medical Council of Canada and to have met the educational requirements of the licensing body of that province.

Medical Council of Canada Examinations

The qualifying examinations of the Medical Council of Canada are conducted at the University of Alberta at times specified by the Council. Students in the fourth year usually write these examinations prior to graduation. A certificate of eligibility from the College of Physicians and Surgeons of Alberta must be presented when making application to sit these examinations.

Registration for Practice

The holder of a licence to practice must register with the professional organization in the particular province concerned. In Alberta, this is the College of Physicians and Surgeons of the Province of Alberta. For information regarding provincial registration contact the Registrar of the College, 9901-108th Street, Edmonton, Alberta, T5K 1G9. Students who intend to practice in any other province should secure information from the provincial body concerned as early as possible in their medical program so that they may know of any special educational conditions which must be fulfilled.

121.5 Finance

Information on fees charged to students in the Faculty of Medicine is given in §15. In addition, medical students spend approximately $2,000.00 each year for books, supplies, and instruments. Fourth-year medical students pay an examination fee of $500.00 to the Medical Council of Canada in January of their final year.

Some remuneration is presently given to final year MD students by the Department of Hospitals and Medical Care of the Government of Alberta.

Details of scholarships and other forms of financial assistance available to medical students will be found in the Awards section of this Calendar, §§223 to 228 or by contacting the Faculty Student Affairs Office, 2J211 WC Mackenzie Health Science Centre (phone 492-6350).

121.6 Society Memberships

The Medical Students' Association is the officially recognized organization of medical students. It provides many social, recreational, and cultural activities for medical students and sponsors several important community projects. It is authorized to collect a membership fee from each student. The Association provides the following annual awards: The Outstanding Teacher Awards presented to one teacher for excellence as an educator in each of the Phase I, II, and III programs and similarly to one resident; the Shaner Award presented to a graduating student for exceptional contributions to the work of the Association; the Mackenzie Award presented to a graduating student who is judged to be most proficient in clinical skills; and the Fried Award presented to the Phase III student who composes the best written case presentation in Paediatrics. Some of the projects currently sponsored by the MSA and run by medical students are: the University of Alberta branch of Shinerama, a program dedicated to raising money for Cystic Fibrosis research; the Courtyard Concert Series, a noon-hour classical concert series for University Hospital patients, on a grand piano donated by the MSA; and IATROS, a student medical journal dedicated to publication of student articles and to increasing communications between present students and alumni. Many social activities and sports events are also planned throughout the year.

The Medical Alumni Association is an organization of all graduates in Medicine from the University of Alberta. The Association takes an active interest in the Faculty and provides a limited loan fund for undergraduate and graduate students. In addition the Association participates in a number of awards to students and, from time to time, finances specific projects in the Faculty. The Association meets annually in conjunction with the Alberta Medical Association meeting.

122 Admission and Academic Regulations

122.1 Admission

122.1.1 MD Program

The Faculty of Medicine at the University of Alberta offers a four-year program leading to the degree of Doctor of Medicine. Although applicants differ in terms of academic talents and interests, there are a number of common factors relating to the admissions procedure with which those contemplating application should be familiar. Since the number of applicants greatly exceeds the number of places available, a careful process of selection is carried out as described below.

(1) **English Language Proficiency**: English is the language of instruction in the Faculty of Medicine. Good oral communication in English is essential in dealing with patients, physicians, nursing staff, and paramedical personnel. Therefore, regardless of country of origin or of citizenship status, applicants will be required to demonstrate proficiency in the English language as a prerequisite to admission as outlined in §13.2.2 of the University Calendar.

In addition to the University's requirement for English proficiency, all applicants to the Faculty of Medicine who are required to write the TOEFL must also submit the results of the Test of Spoken English and achieve a minimum score of 200.

For further information contact the Examinations and Timetabling Division, Office of the Registrar, Administration Building, University of Alberta, Edmonton, Alberta, T6G 2M7. These examinations, administered by the Educational Testing Service, Princeton, New Jersey, can be written at various sites on several different occasions each year. Applicants must allow sufficient time for the results to reach the Faculty of Medicine by December 31.

(2) **Quotas**: Currently there is a quota of 118 places in Medicine. Two additional positions over quota may be available for qualified aboriginal students (see below).

In quota programs the University's objective is to have, where possible, 5% of the students on student authorization (i.e. foreign students) and 10% non-Alberta Canadians, provided that no one is admitted who is less qualified than any Alberta resident who is denied admission. The remaining minimum of 85% of the positions are taken by Albertans.

A resident of Alberta is defined as a Canadian citizen or permanent resident (landed immigrant) who has been domiciled in the province of Alberta or the Yukon or Northwest Territories for at least one continuous year immediately prior to the first day of classes of the session in which admission is sought.

The one-year residence period shall not be considered broken where the Admissions Committee is satisfied that the applicant was termporarily out of province on vacation, in short term employment, or as a full-time student.

(3) **Aboriginal Students**: The Faculty of Medicine may provide up to two positions over the regular quota of 118 for the MD program to aboriginal applicants. For clarification, it is noted that students who are of aboriginal ancestry within the meaning of the Constitution Act, 1982, Section 35.(2) will be considered in this category.

Candidates will be subject to normal minimum admission requirements as outlined in §121.1(6) and approval by the Faculty of Medicine Admissions Committee. If there are no qualified aboriginal students in any given year, these positions will not be allocated to other applicants.

Aboriginal student applicants and prospective pre-medical students are encouraged to contact the Coordinator, Native Health Careers, Faculty of Medicine for individual counselling and career planning.

(4) **Application Deadlines**: During the university year, a student must file an application for admission to medicine on the assumption that he/she will satisfactorily complete the academic requirements outlined below no later than the Spring Examination of the year for which application is made. Applications must be submitted no later than **November 1** of the year prior to that for which admission is sought.

(5) **Length of Program**: Applicants should be aware of the total length of time required to obtain a medical degree and following this a licence to practice — the usual time is a minimum of two years of pre-medical (normally four years pre-medical), four years of medical studies at which point the MD degree is awarded, and then a minimum of two years of prelicensure internship for licensure in Alberta.

(6) **Requirements for Admission**

a. **Subject Requirements**

All students considering medicine must register in a degree program and maintain good standing in that program. The student must take courses in the following subjects: Inorganic Chemistry (Note: CHEM 100 or CHEM 104 at the University of Alberta **will** be recognized for admission purposes), Organic Chemistry, Physics, Biology, English, and Statistics. (Note: BIOL 110, PHYS 169 and 171, and Astronomy at the University of Alberta will **not** be recognized by the Faculty of Medicine as prerequisites for admission purposes.) Students must have six units of course weight in each of the above subjects with the exception of Statistics where three units of course weight is acceptable. To be considered for admission, students must normally have achieved an average of 7.0 (on University of Alberta 9.0 scale) in two full years of study (the equivalent of 60 units of course weight).

Students are encouraged to obtain a baccalaureate degree prior to admission, but may apply after two or three years in a degree program.

To be considered for entry after only two or three years at university or college, a student must have all the prerequisites as well as exceptional academic (minimum GPA of 8.0) and exceptional personal qualifications. It is recommended that students in the Faculty of Science at the University of Alberta who wish to be considered for this early admission to the Faculty of Medicine be enrolled in an honors program.

Students should ensure that the above prerequisites are completed and that each year consists of a minimum of 30 units of course weight to comply with the best two-year rule (see above).

Students are normally required to conform to the stated requirements as the first year of the MD program is structured on the assumption that all the required material has been covered, and that there will neither be time nor opportunity within that year to make up deficiencies. In addition, students are encouraged to have taken an introductory biochemistry course prior to entry into the MD program.

Students taking the above courses must be registered, as noted previously, in a degree program and are therefore subject to the rules and regulations of that particular Faculty. There are several departments in Science, as well as other Faculties, in which two pre-medical years containing the prerequisite subjects count for full credit toward a four-year degree. The student is therefore advised to study the entrance requirements for the Faculty of choice very carefully, paying particular attention to the high school courses needed for entrance into programs that might be chosen in the event that the student is unsuccessful in gaining admission to the Faculty of Medicine. Transcripts must be received no later than January 31, with the exception of second and third-year students, whose final transcripts must be submitted by June 15.

b. **Medical College Admission Test**

All applicants are required to take the MCAT. This test is conducted in Edmonton by the Examinations and Timetabling Division of the Registrar's Office in the spring and fall of each year and in other test centres. An application to take this test must be sent directly to the American College Testing Program. The MCAT must have been written in the last two years and, at the latest, the autumn prior to admission. The applicant must direct the American College Testing Program, who score the MCAT, to forward results directly to the Faculty of Medicine or alternatively deliver the results by mail or in person to the Faculty of Medicine by **December 31**.

c. **Interview, Autobiographical Essay, and Letters of Reference**

Qualified applicants will be required to present themselves for a personal interview. Closed letters of reference and an autobiographical essay will also be required. Failure to provide these by **December 31** may result in closure of the applicant's file.

(7) **Selection Factors**: Selection of students for admission to the MD program follows guidelines established by the Board of Governors of the University of Alberta, General Faculties Council, and the Faculty Council of the Faculty of Medicine, and is the responsibility of a standing committee of Faculty Council - the Committee on Admissions.

Selection by the Committee on Admissions takes into account the students' grade point average from their best two full years of study (30 units of course weight each year), the grade point average from their prerequisite courses, MCAT scores, interview rating, letters of reference, and autobiographical essay ratings.

The lack of essential personal qualities in an applicant may be deemed sufficient cause for refusal of admission.

There is no discrimination with respect to the sex or age of the applicants in the selection process.

(8) **Medical Examination**: Students admitted to the MD program are required to present a certificate of satisfactory medical examination from a physician of The University of Alberta Health Services as part of the faculty requirements.

(9) **Deposit**: Applicants will be advised of the decision of the Admissions Committee in the spring. Successful applicants, upon acceptance of a place in the first year class, are required to send a deposit of $50.00 to the Comptroller of the University of Alberta. This deposit will be credited to tuition fees when the student registers. Should a candidate withdraw after accepting a position, this deposit will be forfeited.

An admission or readmission decision is normally valid only for the session or term for which it is approved.

121.1.2 Combined MD/PhD Program

A program is available for highly qualified students strongly motivated toward a career in medical research. The program, which is available to all individuals who are admitted to medical school, requires approximately seven years of study and leads to the acquisition of both an MD and PhD degree. Credit for the possession of a PhD is normally granted toward residency when applying to the Royal College in most, if not all, of the specialty fields and can save up to a year.

For further information on this program contact the Associate Dean (Research), Faculty of Medicine, University of Alberta, 2J2 WC MacKenzie Health Sciences Centre, Edmonton, Alberta, T6G 2R7.

122.1.3 BSc Program in Medical Laboratory Science

The matriculation requirements for admission to the BSc program in Medical Laboratory Science are set out in §§13.2 and 13.4.10.

Limited space is available for transfer into the second year of the program from other faculties at the University of Alberta.

Prospective students holding a current registration with the Canadian Society of Laboratory Technologists may be given advanced credit. Further information may be obtained from the Division of Medical Laboratory Science, Clinical Sciences Building, University of Alberta.

English language proficiency requirements are the same as for the MD program. See §121.1.1(1).

Medical laboratory science is not recommended as a pre-medical program. See pre-professional programs listed in this Calendar §193.28.

122.2 Academic Standing and Graduation

122.2.1 MD Program

(1) The Council of the Faculty of Medicine approves the principle that the means of assessing a student's progress and determining a student's grades may vary from one department to another in accordance with the nature of the course. Factors other than examination results may be used to a variable extent by instructors in determining grades but students will be informed at the commencement of the course how grades are to be determined.

(2) The Council of the Faculty of Medicine has established a Student Evaluation Board, consisting of five faculty members and four students, responsible for all student evaluation procedures and for the coordination of examinations.

(3) Students are advised each year of the procedures to be used in their evaluation, the determination and reporting of their grades, and the standards required by the Faculty. Students are also advised of the procedures for appeal established within the Faculty and the University.

(4) Students are awarded a grade point average at the conclusion of each phase of the program on the basis of their performance in course examinations held during the phase and in Phase II and III of the final comprehensive examination.

(5) Students with a grade point average of less than 5.0 will not be permitted to proceed in the MD program except at the discretion of the Faculty.

(6) **Reexaminations**

a. The student who is granted reexamination privileges will be expected to show marked improvement over previous performance and will be expected to obtain a GPA of 5.5 or greater.

b. If a reexamination is approved, satisfactory completion of a remedial program may be required before taking the reexamination.

c. Reexamination privileges may apply to full comprehensive examinations or to individual courses. A student neglecting to take a reexamination will not be allowed to continue in Medicine.

No student will be allowed to proceed to any subsequent year of the medical program unless he or she has completed all the work of the previous year.

No student will be allowed to repeat the first year of the medical program except in special circumstances approved by the Faculty.

A student permitted to repeat a failed year who fails to obtain a satisfactory record in the first term of that year will be required to withdraw from the Faculty.

) Except in very unusual circumstances, a student who is repeating a year will be required to withdraw unless a grade point average of at least 5.5 is obtained on the work of the repeated year.

) Any student whose work, or performance, is deemed unsatisfactory will be required to withdraw from the Faculty of Medicine.

) A student whose performance during a student internship is deemed to be unsatisfactory will be required to satisfactorily complete a remedial period of training in that discipline or may be required to withdraw from the Faculty.

2.2.2 BSc Program in Medical Laboratory Science

Promotion in the Medical Laboratory Science program is dependent on passing grades in all subjects of the previous year with a minimum grade point average of 5.5 as well as the following requirements:

st year:
tudent must obtain a minimum average of 5 in the nbined grades for CHEM 100, 160, and a grade of 5 ILSCI 191.

cond Year:
tudent must obtain a minimum grade of 5 in each of IID 361, MLSCI 230, 250 and 260.

ird Year:
tudent must obtain a minimum grade of 5 in MLSCI), 330, 340, 350, 360, and 370.

urth Year:
tudent must obtain a minimum grade of 5 in MLSCI and one of MLSCI 409 or MMID 410.

The quota for first year students is larger than the quota for second year students. There is an attrition rate built in. Therefore promotion from first to second year is not always guaranteed by obtaining a minimum promotion criteria in first year.

Reexamination: A student in the Medical Laboratory Science program may be granted a reexamination at the discretion of the Divisional Revision Committee. Normally the following guidelines apply:

a. The student must be deemed to have a high probability of success in taking a reexamination. Such recommendations shall only be given in those instances in which the student's performance throughout the year was satisfactory but circumstances were present which led to a poor performance in the final examination. This decision is made by the Director on the recommendation of the course instructor.

b. The student's overall GPA, including the course in which the reexamination is requested, is 5.5 or greater. The grade for the course to be reexamined must be a 3.

c. The course load for the session was at least 27 credits.

d. A student will be eligible to write only one reexamination per session.

The weight of the reexamination will be the same as weight of the original final exam. The final grade r reexamination will appear on the transcript and will used in the calculation of all averages.

For further information refer to §16.5.4 in the endar.

2.3 Appeals and Grievances

A student seeking a review of a Faculty decision on demic standing should first consult with the Dean or Associate Dean for Undergraduate Education. In the nt that the matter still remains unsolved, the student / appeal formally in writing to the Academic Appeals Committee, a committee appointed by the Medical Faculty Council. Full details on Appeal Procedures may be obtained from the Student Affairs Office, Faculty of Medicine, 2J211 WC Mackenzie Health Sciences Centre.

In the event that the matter still remains unsolved, the student may, in accordance with the guidelines of General Faculties Council, take the appeal to the GFC Academic Appeals Committee, by delivery to the Secretary of GFC of a written statement which must include full particulars and the relief requested (See §16.8 of the University Calendar).

Appeals on matters of grades should be discussed with the course coordinator and Department Chair. If resolution is not effected, the appellant should consult with the Associate Dean for Undergraduate Affairs, and may initiate an appeal to the Faculty Academic Appeals Committee, whose decision is final.

Appeals on grievances or other matters should be discussed with the department concerned or the appropriate Associate Dean for advice.

123 Programs of Study

123.1 The Degree of MD

123.1.1 General Information

The four-year program leading to the MD degree is conducted in three phases, each under the direction of an interdepartmental coordinating committee.

Phase I
An academic year (35 week) program in the basic medical sciences with an introduction to clinical medicine. Coordinator: Dr. DW Spady.

Phase II
An academic year (35 week) program in clinical and related basic medical sciences taught in a body system format in the context of the mechanisms of human disease. Coordinator: Dr. S Aaron.

Phase III
The final two years is a continuous program which includes a student internship of not less than 56 weeks and an elective and selective program of approximately 14 weeks developed by each individual student. A wide range of approved elective programs in all aspects of medical science, medical practice, and related areas is available.

During Phase III each student is entitled to a four week holiday period. Coordinator: Dr. PM Crockford.

123.1.2 Phase I (First Year)

		Hours
ANAT 410	Embryology	24
ANAT 411	Preclinical Anatomy	168
ANAT 413	Human Cytology, Histology and Organology	90
BIOCH 412	General Biochemistry	96
CO ME 411	Community Medicine	25
IMMUN 411	Immunology	32
MED 410	Ethics	7
MED 411	Clinical skills	95
MED 413	Nutrition	36
PATH 411	General Pathology	41
PMCOL 411	Principles of Pharmacology	72
PHYSL 411	Human Physiology	136

123.1.3 Phase II (Second Year)

	Hours
MED 421 (Mechanisms of Disease)	
Medically oriented subjects	
(a) Cardiology	48
(b) Clinical Skills	38
(c) Endocrinology	42
(d) Gastroenterology	50
(e) Growth and Development	34
(f) Hematology	52
(g) Medical Ethics and Jurisprudence	9
(h) Nephrology	35
(i) Pediatrics	6
(j) Pulmonary	62
Surgically oriented subjects	
(k) Ophthalmology	24
(l) Surgery	80
(m) Urology	28
CO ME 421 Community Medicine	18
MMID 421 Medical Microbiology and Infectious Diseases	136
NEURO 421 Neurological Sciences	105
PATH 421 Pathology	60
PMCOL 421 Pharmacology	56
PSYCI 421 Introduction to Psychiatry	34

123.1.4 Phase III (Third and Fourth Year)

		Hours
CO ME 431	Community Medicine	25
OB GY 431	Obstetrics and Gynaecology	85
MED 431	Topics in Clinical Skills	19
MED 432	Musculoskeletal Systems	73
MED 433	Topics in Dermatology	16
ONCOL 431	Topics in Medical Oncology	24
PAED 431	Topics in Medical Genetics	22
PMCOL 433	Topics in Therapeutics and Problem Solving	23
SURG 431	Topics in Otolaryngology	16
MED 441	Topics in Medicine, Surgery, and Allied Subjects	36
MED 442	Review of Medicine	56
		Weeks
ANAES 446	Student Internship	2
MED 446	Student Internship	12
OB GY 446	Student Internship	8
PAED 446	Student Internship	8
PSYCI 446	Student Internship	8
RADDI 446	Student Internship	4
SURG 446	Student Internship	12
MED 447	Electives	10
MED 445	Selective	4
F MED 446	Selective	4

123.2 Honors in Research Program

This program is designed for the student who is looking for in-depth exposure to research during medical school. Each candidate is required to spend a minimum of 32 weeks of active involvement in a research project during the four years of medical school under the supervision of a staff member. The program is monitored by the PhD in Medical Sciences Committee. Successful students receive recognition on their transcripts and medical diplomas. For information please contact the Associate Dean (Research), 2J2.00 WC Mackenzie HSC.

123.3 The Degree of BSc in Medical Laboratory Science

123.3.1 General Information

The Faculty of Medicine offers a four-year degree program in Medical Laboratory Science, intended to qualify selected applicants for a career as laboratory supervisors or senior technologists in hospitals or medical science laboratories. The first, second, and fourth years of the program are regular university years. The third year, beginning approximately May 1, consists of a twelve-month period of practical hospital laboratory training under the direct supervision of the Faculty of Medicine. Students will receive some remuneration from the University of Alberta Hospitals during the third year of the program. At the end of this year, they are eligible to take the initial certification examinations with the Canadian Society of Laboratory Technologists.

Note: Because individuals working in hospital laboratories run some risk of infection from materials which they will be handling, all students in the Medical Laboratory Science program must take a series of immunizations approved by the office of the Dean of Medicine before beginning the second year.

123.3.2 Program of Courses

		First Term Hours	Second Term Hours
First year			
CHEM 100	Chemistry	3-1s-3	3-1s-3
CHEM 160	Organic Chemistry	3-0-3	3-0-3
GENET 197	Heredity	3-0-3	—
PHYSL 161	Elementary Physiology	3-0-1	3-0-1
MICRB 193	General Microbiology I	—	3-0-3
MLSCI 191	Introduction to Laboratory Medicine	—	3-0-3
Humanities Option		3-0-0	or 3-0-0

Second year			
MMID 361	Pathogenic Bacteriology	3-0-3	3-0-3
MLSCI 230	Hematology	3-0-6	3-0-6
MLSCI 250	Introduction to Histopathology	3-0-3	—
MLSCI 260	Clinical Biochemistry	3-0-3	3-0-3
An Approved Science Option		—	3-0-0
Humanities Option		3-0-0	3-0-0
Third year			
BIOCH 301	General Biochemistry	3-0-0	3-0-0
MLSCI 320	Report Writing/Teaching Assignment		50 hours
MLSCI 330	Clinical Hematology		clinical rotation
MLSCI 340	Clinical Microbiology		clinical rotation
MLSCI 350	Histopathology		clinical rotation
MLSCI 360	Clinical Biochemistry		clinical rotation
MLSCI 370	Transfusion Medicine (see Note A)		clinical rotation
Fourth year			
MLSCI 401	Medical Laboratory Science	3-0-6	3-0-6
One of MLSCI 409, or MMID 410		—	0-0-3
or MLSCI 490		—	0-0-6
An approved MLS option* (See Note B)		3-0-0	3-0-0
MLSCI 480	Molecular Genetic Approaches to the Study and Diagnosis of Disease	3-0-0	
An approved Science option* (See Note C)		3-0-0 or	—
An approved Arts option		3-0-0	3-0-0
An approved Option		3-0-0 or	3-0-0

*A list of approved Science options will be made available to students prior to registration.

Note A: During the third-year clinical rotation, students will be assigned to hospital laboratories approved for this purpose by the Council of the Faculty of Medicine.

Note B: The MLS option must be two of the following MLS related courses: MLSCI 430, 460, and MMID 426, 427, or 505.

Note C: Three units of course weight in a science option are required if a three-units-of-course-weight project is attempted. Zero units of course weight in a science option are required if a six-units-of-course-weight project is attempted.

123.4 Proposed Honors in Research Program

This proposed program will be designed for the student who is looking for in-depth exposure to research during Medical Laboratory Science Education. Medical Laboratory Science students will be required to spend one summer (16 weeks) plus complete a six units of course weight research course offered by the Division. All students will be under the supervision of a staff member. The program will be monitored by the PhD in Medical Sciences Committee. Successful students would receive recognition on their transcripts and degrees through the rotation, "With Honors in Research." For information, please contact the Director, Division of Medical Laboratory Science, B-117 Clinical Sciences Building.

123.5 The Degree of BSc in Medicine

A one-year program of study in a branch of medical science leading to the degree of Bachelor of Science in Medicine may be undertaken either at the completion of the second year of the medical program or following the degree of MD. The work for this degree may be carried out in any department of the Faculty of Medicine, but may not be taken concurrently with any part of the medical curriculum nor by students carrying any conditions in their medical program.

123.6 The Degree of Bachelor of Medical Science

The degree of Bachelor of Medical Science may be awarded to students in the MD program at the end of the second year of that program who have fulfilled the following requirements at this or another University:

First year
Two Science Courses
Three Arts or Science Courses

Second year
Two Science Courses
Three Arts or Science Courses

Third year
First year (Phase I) MD Program

Fourth year
Second year (Phase II) MD Program

Provided that:

(1) None of the courses in the first and second year have been used for credit toward another degree.

(2) The program does not include more than seven junior arts or science courses.

(3) The science courses include:

a. CHEM 100 or 104 or equivalent,

b. CHEM 160 or 260 or equivalent,

c. Two of BIOL 100, GENET 197, or ZOOL 120, or equivalent.

d. PHYS 105 or equivalent for applicants who have credit in Physics 30.

(4) The Science options do not include first-year courses in biochemistry or physiology.

(5) At least the final two years have been taken at the University of Alberta.

(6) A grade point of 4 or better in all courses and a grade point average in each year of at least 5 or equivalent is presented.

(7) Not more than two reexaminations have been written for the purpose of obtaining passing marks or raising the grade point average to the required 5.

123.7 Graduate Studies

123.7.1 The Degrees of MSc and PhD

In the Faculty of Medicine the degree of Doctor of Philosophy is offered either by individual departments or through the inter-disciplinary PhD in Medical Sciences program, both coordinated through the Faculty of Graduate Studies and Research. The departments participating in the interdisciplinary program are Applied Sciences in Medicine, Immunology, Medicine, Paediatrics, Pathology, Psychiatry, and Radiology and Diagnostic Imaging. The Departments of Anatomy and Cell Biology, Biochemistry, Medical Microbiology and Infectious Diseases, Physiology, Pharmacology, and Surgery have their own PhD programs.

All the above-mentioned departments offer programs leading to the Degree of Master of Science.

For further information, see the Faculty of Graduate Studies and Research section of the Calendar or contact the Graduate Student Adviser in the appropriate department at Faculty of Medicine, University of Alberta, Edmonton, Alberta T6G 2R7.

123.7.2 Degree of Master of Health Services Administration

The Department of Health Services Administration and Community Medicine offers a two-year program leading to the degree Master of Health Services Administration. Students may select either a thesis or a non-thesis route to the degree.

The thesis option emphasizes the development of research and planning expertise relevant to efficient and effective delivery of health and social services. The non-thesis option emphasizes the development of administrative expertise relevant to programs and agencies in the health and social services fields.

The MHSA program is acceptable to the Council of the Royal College of Physicians and Surgeons of Canada as a portion of a specialty training program in Community Medicine.

Qualifying Year

The details of a student's course requirements are determined by the faculty of the Department and consideration is given to the student's prior background of course work and experience as well as the student's career plans. The typical Qualifying Year course requirements are as follows:

Required
H S A 400, 401, 420, 430, 431, 450, 470, and 499; plu
one of: H S A 421, 513; plus two of: H S A 435; 460; 47

Note: The department does not require qualifyin students to take courses listed above in which they hav developed competence at least equal to the level o fered in this program as judged by the instructor co cerned.

Summer Period

H S A 499 Field Practicum (four months)

Candidacy Year

Requirements in the candidacy year will vary a cording to the student's interests and needs, as will th selection of either the thesis or non-thesis route. Th focus and variety of course work must represent logically coherent preparation in reference to the st dent's career interests, research plans, and the needs the field. Consideration may be given to modifications the course work outlined below where special circur stances of prior education, work experience, and/ career interests are present.

Thesis Route

In addition to the thesis, students must norma complete two pairs of the courses from the following l one pair of which must be H S A 530/531 or H S A 56 561: H S A 510/610; 530/531; 535/610; 550/551; 5 561; 570/571; 600/601; and 520/610 (if available).

Non-Thesis Route

Normally, non-thesis students must complete one the above pairs of courses plus:

(1) two additional, approved graduate level H S courses (preferably a linear pair);

(2) four additional, approved electives; two of the must be graduate level courses; at least one these should be an H S A course.

(3) H S A 900 Major Paper Project

To complete degree requirements in the short possible time, students should expect to work the major paper or thesis during the May to Aug period. All degree requirements must be complet within four years of the time when the student fi registered as a candidate.

Part-time Master's Degree Non-Thesis Option

Candidates in the Master's program who choos non-thesis option may complete their candidacy requi ments on a part-time basis. Students can be admittec this part-time program following completion of the qu fying year equivalent through the part-time Post Gra ate Diploma Program, through a full-year qualifying y or potentially by completion of a baccalaureate deg in health services administration.

Requirements for Admission

(1) The department's minimum admission requireme are those set out as minimum acceptable standa by the Faculty of Graduate Studies and Resear These include a baccalaureate degree with a gr point average of at least 6.5 on the 9-point grad system in the work of the last two years of univer education at the University of Alberta, or an equi lent qualification from another institution, an TOEFL score of 550 where applicable.

The Department also requires:

a. three letters of reference;

b. Miller Analogies Test (MAT) results;

c. personal curriculum vitae (in addition to vitae form attached to the application fo including copies of any relevant articles student papers;

d. advise regarding any time limitations relatin the application (for example, notice to employ

e. a statement of intent which includes the foll ing information:

1) why the student is interested in the He Services Administration program;

2) career plans upon completion of the gram;

3) a description of the student's employn experience relevant to health and s services administration and;

4) any additional information the student f is pertinent and useful to the Selection C mittee's consideration of the application

f. recommendation to the Dean of the Facult Graduate Studies and Research from the C of the department (following a Selection C mittee review) that the applicant is in al spects acceptable to the department.

Requests for further information and/or application forms should be forwarded to the Department of Health Services Administration and Community Medicine, Faculty of Medicine, University of Alberta, 13-103 Clinical Sciences Building, Edmonton, Alberta, Canada, T6G 2G3.

123.7.3 The Postgraduate Diploma in Health Services Administration

The Department of Health Services Administration and Community Medicine offers a postgraduate diploma in Health Services Administration. The purpose of the diploma is to provide a high quality postbaccalaureate educational experience in health services administration to a larger number of health care personnel than is currently possible within the framework of the Master's program. This course of studies will be of particular interest to health and welfare executives seeking mid-career educational opportunities.

The diploma may be completed on a full-time or part-time basis but must be finished within four academic years of initial registration. It can be completed in one full-time academic year. Normally, only courses taken within the five years prior to application to a Health Service Administration program may be considered for credit toward the diploma course requirements.

Diploma students and graduates may apply for admission to the Master of Health Services Administration program and, if accepted, health services administration courses which have been completed with a grade of 6 or better may be credited towards the qualifying year of the master's degree. Diploma graduates can normally complete the master's program in one year. Any diploma student or graduate intending to apply for admission to the MHSA program must do so by December 1 of the preceding year so that a placement for the field Practicum (H S A 499) may be arranged for the following summer.

Program Requirements

(1) Required courses:
H S A 400 Health and Welfare Delivery Systems, and H S A 401 Problems and Issues in Health and Welfare Delivery Systems;

(2) Eight elective courses at the 400 level or higher:

a. At least six of these electives are to be H S A courses at the 400 level or higher.

b. Of the eight courses, there should normally be two linear pairs. In addition to the apparent linear parts such as HSA 420/421 or 470/471, the following are considered to be linear: HSA 420/513, HSA 450/460, and HSA 435/535.

(3) Transfer Credit and Exemptions:

a. Transfer credit may be recommended for any approved course provided it (a) was not taken for credit toward another earned degree or diploma, and (b) was taken for credit in the previous five years.

b. A maximum of two exemptions will be allowed for prior equivalent coursework.

c. Within the above context, a minimum of six courses in the Diploma program, including courses for which advanced credit is granted, must be taken at the University of Alberta.

d. Normally, only courses taken within the five years prior to admission to the postgraduate diploma program may be considered for credit toward diploma course requirements.

e. Consideration may be given to modifications in the course work outlined above in exceptional circumstances of prior education, work experience, and/or interest.

f. No language other than English is required for the postgraduate diploma.

g. There is no minimum period of residence.

Requirements for Admission

The department's minimum admission requirements are those set out as minimum acceptable standards by the Faculty of Graduate Studies and Research. These include a baccalaureate degree with a grade point average of at least 6.5 on the 9-point grading system in the work of the last two years of the university education at the University of Alberta, or an equivalent qualification from another institution, and a TOEFL score of 550 where applicable.

The Department also requires:

(1) three letters of reference;

(2) Miller Analogies Test (MAT) results;

(3) personal curriculum vitae (in addition to the vitae form attached to the application form), including copies of any relevant articles or student papers;

(4) advise regarding any time limitation relating to the application (for example, notice to employer);

(5) a statement of intent which includes the following information:

a. why the student is interested in the Health Services Administration program;

b. career plans upon completion of the program;

c. a description of the student's employment experience relevant to health and social services administration, and;

d. any additional information the student feels is pertinent and useful to the Selection Committee's consideration of the application;

(6) recommendation to the Dean of the Faculty of Graduate Studies and Research from the Chair of the department (following a Selection Committee review) that the applicant is in all respects acceptable to the department;

(7) in addition to the above, applicants for the Postgraduate Diploma Program must have had three year's experience in the health or welfare field;

(8) applicants for the Postgraduate Diploma in Health Services Administration will be required to submit (in the letter of intent) the classes they plan to take, and to indicate the relevance of the proposed coursework to the applicant's career. This statement will be used in assessing the application and the acceptability of proposed exemptions or advanced credit.

123.7.4 The Joint PhD Program (Health Care Planning and Evaluation)

The University of Alberta offers a doctoral program with a specialization in Health Care Planning and Evaluation jointly administered by the Department of Sociology and the Department of Health Services Administration and Community Medicine. There is a possibility that joint programs may be arranged with other departments.

The doctoral program is designed to prepare teachers and researchers in health care planning and evaluation by providing an optimal combination of academic and practical experience. The PhD program will require two or three calendar years for completion, depending on the student's academic and practical experience.

Students interested in the joint doctoral program should contact the Department of Health Services Administration and Community Medicine.

123.7.5 Combined MD/PhD Program

Details regarding this program can be found in §121.1.2.

123.8 Postgraduate Training in Medical and Surgical Specialities

Postgraduate training programs fulfilling requirements laid down by the Royal College of Physicians and Surgeons of Canada are offered in the following specialties: Anesthesia, Critical Care, Diagnostic and Therapeutic Radiology (Nuclear Medicine, Radiation Oncology, Radiology and Diagnostic Imaging), Laboratory Medicine (Anatomical Pathology, General Pathology, Hematological Pathology, Medical Biochemistry, Medical Microbiology), Medicine (Cardiology, Dermatology, Endocrinology, Gastroenterology, Geriatric Medicine, Hematology, Infectious Diseases, Internal Medicine, Nephrology, Neurology, Oncology, Pulmonary Medicine, Rheumatology), Obstetrics and Gynaecology, Occupational Medicine, Ophthalmology, Paediatrics (Neonatology), Dermatology, Physical Medicine and Rehabilitation, Psychiatry, and Surgery (Cardiovascular and Thoracic, General, Neuro, Orthopedic, Otolaryngology, Plastic, Urology).

In addition, two-year periods of graduate training for certification by the College of Family Physicians are available under the auspices of the Department of Family Medicine.

In all specialties, the graduate program takes the form of successive residency and sometimes research appointments with increasing responsibility during which seminars and directed reading programs are conducted covering the scope of the specialty. All individuals accepted for specialty programs and including rotating interns are registered as graduate students in the Division of Postgraduate Medical Education of the Faculty of Medicine and are eligible for membership in the Graduate Students' Association on payment of the appropriate fee.

Programs are open to suitably qualified graduates who are eligible to have their names placed on the Educational Register of the College of Physicians and Surgeons of Alberta. All foreign medical graduates will be required to have passed the Evaluating Examination of the Medical Council of Canada to be eligible for registration with the College.

Inquiries regarding these programs should be directed to the Associate Dean, Division of Postgraduate Medical Education, 2J211 W.C. Mackenzie Health Sciences Centre, University of Alberta.

123.9 Continuing Medical Education

The objective of the Division of Continuing Medical Education is to provide the practicing physician with the opportunity to remain up-to-date in knowledge, skills and attitudes. The Division organizes a variety of postgraduate learning events for family practitioners and specialists. These include one to three day conferences in Edmonton or some resort area, regional conferences in outlying hospitals of Central and Northern Alberta, a telephone conference program to physicians in many smaller communities, an evening course series, major university based courses, and clinical traineeship and distance learning programs in the teaching hospitals of Edmonton. The Division co-sponsors teaching events with a variety of para-medical organizations if they appear to be relevant to the improvement of health care. The Division enjoys the support of the College of Family Physicians of Alberta and the Alberta Medical Association.

Inquiries regarding these programs should be directed to the Director, Continuing Medical Education, 12-103 Clinical Sciences Building, University of Alberta, Edmonton, T6G 2G3.

124 Details of Courses

124.1 General Information

In the following sections, courses offered by the various departments and divisions of the Faculty are listed in alphabetical order.

Each course is designated by its computer abbreviation and a number.

Following the title of the course is the symbol "★", standing for "units of course weight", and a number indicating the weight of the course as used in computing grade-point averages. Some courses are offered for credit only and carry no weight.

The next three figures, enclosed in parentheses, indicate the hours of instruction required by the course in a week or in some cases the total time in the term. The format is as follows: the first position indicates lecture hours; the second position indicates seminar hours (s), demonstration (d), clinic (c), or lecture-lab (L); and the third position indicates laboratory hours. The expression "2s/2" means two seminar hours every second week. The hours of instruction are the same in both terms unless otherwise indicated. If the course lasts only one term, the term in which it may be offered is mentioned before the hours of instruction.

The appearance of a course description in the following list does not constitute any guarantee that the course will actually be offered in the forthcoming session. Information as to which courses will be offered, the names of the instructors, and all further details must be sought from the department concerned.

Physical Requirements for University

The University has a commitment to the education of all academically qualified students and special services are frequently provided on campus to assist disabled students.

Nevertheless, some courses make certain unavoidable demands on students, with respect to the possession of a certain level of physical skill or ability, if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the department concerned and the Disabled Student Services Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for all off-campus courses, instructors may be obliged to refuse registration in such courses.

124.2 Anaesthesia

124.2.1 Undergraduate Courses

Instruction in theoretical aspects of anaesthetic practice is included in PMCOL 421.

ANAES 446 Student Internship
★1.5 (2 weeks). Student Internship, for Students in Phase III MD program only.

124.2.2 Resident Training

A complete residency program in anaesthesia is offered by the Department of Anaesthesia and affiliated hospitals. It comprises 30 months approved training in clinical anaesthesia, a year of training in neonatal and adult intensive care as well as cardiopulmonary medicine, and six months of research, additional clinical anaesthesia, or alternatives acceptable to the Royal College. In the course of this program which covers a minimum of four years, residents must pass through:
ANAES 541 First Year Anaesthesia
ANAES 542 Second Year Anaesthesia
ANAES 543 Third Year Anaesthesia
ANAES 544 Fourth Year Anaesthesia
and must apply for acceptance into each successive year. During the period of graduate specialty training, all residents are registered as full-time students in the Division of Postgraduate Medical Education of the Faculty of Medicine.

124.3 Anatomy and Cell Biology

124.3.1 Undergraduate Courses

ANAT 200 Human Morphology
★3 (second term, 3-0-0). An overview of human structure. Emphasis is placed on the systems of the body and their cooperative role in normal function. A lecture course open to Pharmacy students only.

ANAT 410 Human Embryology
★2 (either term, 24 hours). A course in basic human embryology emphasizing normal development, organ relationships and variations. In addition, the more common congenital defects will be studied to enable the student to recognize and better understand the nature of birth defects.

ANAT 411 Gross Anatomy
★6 (second term, 168 hours). The course is designed to provide basic information on the stucture of the human body which is necessary for medical practice. Lectures emphasize organ relationships that are important for understanding the spread of disease, diagnostic principles, and surgical treatment. Lectures are followed by student dissections of the human body, prosection demonstrations, laboratories of radiological anatomy, and clinics.

ANAT 412 Gross Anatomy
★5.5 (second term, 107 hours). The course is designed to provide basic information on the structure of the human body which is necessary for dental practice. Lectures emphasize organ relationships in the thorax and head and neck that are important for understanding the spread of disease, diagnostic principles, and surgical treatment. Lectures are followed by student dissections of the human body, prosection demonstrations, laboratories of radiological anatomy, and clinics.

ANAT 413 Cell Biology and Histology
★6 (first term, 90 hours). The goal of the course is to equip the students with histological skills and sufficient knowledge of cell structure and function so that normal life processes and diseases can be understood at the cellular level. Topics in modern cell biology as they relate to clinical medicine and dentistry are examined in a series of lectures in the first part of the course. Histology of human tissues is taught in lectures and laboratories.

ANAT 419 Neuroanatomy
★2 (second term, 30 hours). A basic course in the main structural and functional aspects of the central nervous system, with emphasis on the clinical importance of major pathways rather than theoretical concepts. Available only to dental students.

NEURO 421 Neurological Sciences
★5 (105 hours). An integrated course in neuroanatomy, neuropathology, neuroradiology, neuropharmacology, neurophysiology, and neurosurgery. Instructors: members of the Departments of Anatomy and Cell Biology, Neurology, Neuroradiology, Neurosurgery, Pharmacology, and Pathology.

124.3.2 Graduate Courses

Note: First term graduate courses in the Department of Anatomy and Cell Biology commence at the same time as courses in the MD program.

ANAT 612 Research Project
★3 (either term, 2-0-4). Prerequisite: Consent of Department.

ANAT 613 Development and Molecular Neurobiology
★3 (first term, 0-3s-0). This course will explore nine topics in developmental neurobiology, including cell lineage, nerve growth and guidance, myelination, synapse formation, axonal transport and response to injury. In particular, the course will emphasize theoretical and experimental aspects, the expanding role of molecular biology in studies in this field, and areas of present and future research. Prerequisite: Consent of Department. Note: Offered in alternate years (starting Fall 1989).

124.4 Applied Sciences in Medicine

124.4.1 General Information

Research facilities and lecture courses for graduate programs are offered by the Department of Applied Sciences in Medicine. Degree programs can be administered wholly by the Department or by the Department in cooperation with departments in other faculties. The Department offers programs leading to the Master of Science and Doctor of Philosophy degrees.

The areas most actively encouraged for research and education are medical physics, biomedical engineering, medical informatics, and medical instrumentation.

124.4.2 Undergraduate Course

ASM 475 Introduction to Medical Physics
★3 (first term, 3-0-0). Gives an overview of the practical applications of physics in modern clinical medicine. Covers the use of radiation and radioisotopes in therapy and diagnosis, nuclear medicine, medical imaging (via x-rays, gamma rays, nuclear magnetic resonance, positron emission), bio-electricity and -magnetism, optics, acoustics, etc. Prerequisite: PHYS 271 or equivalent.

124.4.3 Graduate Courses

ASM 501 Hospital Information Systems
★3 (either term, 3-0-0). Detailed study of an integrated hospital information system, for lessons in effectiveness, efficiency and elegance, as a vehicle for learning design. Covers program structures and algorithms, data representations and structures, user-visible aspects; stresses soundness and maintainability of programs. Involves a major creative project. Prerequisite: Graduate-level competence in Cobol.

ASM 509 Topics in Medical Informatics
★3 (either term, 3-0-0). Individual sections dealing with such topics as medical databases, biostatistical processing. Prerequisite: Consent of instructor.

EE AS 512 Physical Measurements in Medicine
★3 (either term, 3-1s-0). Properties of the cell membrane, Nernst-Planck equation, Donnan membrane, constant field membrane, membrane impedance. Action potentials, voltage clamp measurements, membrane conductance, H-H equations, nerve conduction. Mathematical models of the axon. Electrodes. Gas and blood gas analysis. The ECG, EEG, and EMG, origin and type of these signals, measurement techniques. Blood flow and blood pressure measurements (invasive and non-invasive). Safety aspects of electrical equipment in medicine. Prerequisite: Consent of Department.

ASM 513 Topics in Biomedical Engineering
★3 (either term, 3-0-0). Individual sections covering such topics as non-ionizing radiation, neurophysiological signal processing. Prerequisite: EE AS 512 or consent of instructor.

EE AS 540 Digital Computer Processing of Images
★3 (either term, 3-0-3). Extension of sampling theory and the Fourier transform to two dimensions, pixel operations including gray-level modification, algebraic and geometric transformations. The design of spatial filters for noise reduction, image sharpening and edge enhancement and some discussion of interpolation techniques. An introduction to the concepts of image restoration from known degradations and the reconstruction of images from parallel and fan projections. Prerequisite: E E 538 or consent of instructor.

ASM 575 Magnetic Resonance in Biology and Medicine I
★3 (first term, 3-0-0). The physical principles behind the application of nuclear magnetic resonance spectroscopy in fields from biochemistry to medicine. Topics include: Fourier transform NMR, multipulse techniques, 2-dimensional NMR, relaxation theory, *in vivo* spectroscopy, NMR imaging. Designed for advanced honors and graduate students interested in the application of NMR to biological systems. Intended to be followed by BIOCH 575. Offered in alternate years. Prerequisite: Consent of instructor.

ASM 579 Topics in Medical Physics
★3 (second term, 3-0-0). Individual sections dealing with such topics as computed tomography, nuclear magnetic resonance, therapeutic radiation. Prerequisite: PHYS 475, 477 or consent of instructor.

ASM 599 Project in Applied Sciences in Medicine
★3 (either term, 0-0-6). Practical application of science to problems in health care; involves report on problem and alternative solutions, plus complete demonstration and documentation of chosen solution. Prerequisite: Any ASM course or consent of Department.

ASM 600 Seminars in Applied Sciences
★2 (0-2s/2-0). A series of seminars designed to expose graduate students to the various areas of research and to provide a forum for progress reports in individual areas. Seminars from research workers from inside and outside the University will be included. Seminars are held in an informal atmosphere with ample opportunity for discussion.

ASM 609 Advanced Topics in Medical Informatics
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

ASM 613 Advanced Topics in Biomedical Engineering
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

ASM 679 Advanced Topics in Medical Physics
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

124.5 Biochemistry

124.5.1 Undergraduate Courses

Details on the BSc (Specialization & Honors) programs in Biochemistry can be found in §193.2.

BIOCH 301 General Biochemistry
★6 (3-0-0). Structure and chemistry of the cell; the chemistry and metabolism of carbohydrates, lipids, proteins and nucleic acids; the molecular biology of enzymes and genes as related to the functioning of the living cell. Prerequisite: CHEM 100 or 104 or 204; and CHEM 160 or 260. Those for whom this course is an option require consent of Department.

BIOCH 303 Introduction to Protein Structure and Function and to Intermediary Metabolism
★3 (first term, 3-0-0). Selected examples of enzyme mechanisms and metabolic controls. Note: Restricted to Honors and Specialization students in Chemistry. Prerequisite: CHEM 100 or 104, and CHEM 160 or 260.

BIOCH 305 Introduction to the Molecular Biology of Membranes and Nucleic Acids
★3 (second term, 3-0-0). Includes the chemistry of these substances and their roles in cellular functions. Note: Restricted to Honors and Specialization students in Chemistry. Prerequisite: BIOCH 303.

BIOCH 401 Advanced Laboratory
★6 (0-0-8). A laboratory course in modern biochemical techniques. Designed for Biochemistry Honors and Specialization students in their third or fourth year. Other interested students may enrol subject to space limitations. Prerequisite: BIOCH 301 and consent of Department.

BIOCH 412 Medical Biochemistry and Molecular Biology
★6 (96 hours). Integrated metabolism of carbohydrates, lipids, proteins, and nucleic acids, and regulation of cell function at the molecular level. The objective of the

course is to provide an understanding of the relationship of molecular structure to biological function in both normal and pathological states. Special emphasis will be given to the molecular biology and etiology of selected diseases. Prerequisite: CHEM 100 or 104; CHEM 160. BIOCH 301 or an equivalent course in general biochemistry is strongly recommended. For medical students only.

124.5.2 Graduate Courses

BIOCH 450 The Molecular Biology of Mammalian Viruses
★3 (second term, 3-0-0). Designed for senior undergraduate and graduate students. This course will focus on virus structure, replication, and interaction with host cells at the molecular level. Lytic viruses with single- or double-stranded DNA or RNA genomes will be discussed, as will the mechanisms of viral oncogenesis. Consideration will also be given to strategies for antiviral therapy and to the use of eukaryotic viruses as cloning vectors. Prerequisite: BIOCH 301 or equivalent and consent of Department. Offered in alternate years.

BIOCH 500 Physical Biochemistry
★6 (3-0-0). A survey of the theory and applications of physical techniques in biochemistry. This will include the solution properties of biological molecules, emphasizing hydrodynamics; the physical basis of optical and magnetic resonance spectroscopy; diffraction techniques such as x-ray crystallography, small angle neutron and x-ray scattering and electron microscopy. The structural characteristics of biological macromolecules and the use of physical techniques to study the structure and function of these macromolecules will be discussed. Prerequisite: BIOCH 301 or equivalent, and CHEM 270 or 372. Offered in alternate years.

BIOCH 501 Advanced Laboratory
★6 (0-0-8). A laboratory course to accompany courses in biochemistry. Emphasis on standard methods and techniques as applied to biochemical research. Note: Available to fourth-year honors and specialization in biochemistry students only.

BIOCH 511 Enzymology
★3 (first term, 3-0-0). Application of kinetics in problems in enzymology is followed by a detailed analysis of the structure-function relationship of crystallized glycolytic enzymes, emphasizing mechanistic principles and methods of elucidation. The regulation of enzyme activity by allosteric phenomena and covalent metabolic interconversion is illustrated by examples and application to glycolysis and gluconeogenesis. Prerequisite: BIOCH 301 or equivalent and CHEM 270 or 372, or consent of Department. Offered in alternate years.

BIOCH 512 Genetic Control Mechanisms
★3 (second term, 3-0-0). Selected topics dealing with the molecular basis of genetic controls in prokaryotic and eukaryotic systems. Focus will be on mechanisms of transcriptional initiation and termination, DNA-protein interaction, mRNA structure and function, and post transcriptional controls. Prerequisite: BIOCH 301 or equivalent. Offered in alternate years.

BIOCH 521 Nucleic Acids
★3 (first term, 3-0-0). This course covers the fundamental physical and chemical properties of nucleic acids, their secondary and tertiary structures with biological implications. Replication, recombination and topology of DNA. Strategies for isolating and manipulating genetic elements. Prerequisite: BIOCH 301 or equivalent. Offered in alternate years.

BIOCH 531 Protein Structure
★3 (second term, 3-0-0). Topics include amino acid analyses, peptide and protein sequencing, chemical modification, cross-linking reagents, chemical synthesis of peptides and proteins, high performance liquid chromatography of peptides and proteins, principles of protein structure, and protein fold patterns. Prerequisite: BIOCH 301 or equivalent, CHEM 270 or 372. Note: Designed for advanced Honors and Graduate students and offered in alternate years.

BIOCH 575 Magnetic Resonance in Biology and Medicine II
★3 (second term, 3-0-0). The application of nuclear magnetic resonance in fields from biochemistry to medicine. Topics to include studies of protein structure and function and enzyme mechanisms by NMR, and applications of *in vivo* NMR spectroscopy and NMR imaging. Designed for advanced honors and graduate students interested in the application of NMR to biological systems. Prerequisite: ASM 575. Offered in alternate years.

BIOCH 590 Structure and Function of Biological Membranes
★3 (first term, 3-0-0). A general survey of the structure and function of biological membranes. Topics will include the structure, properties and composition of biomembranes, the characterization of membrane lipids and proteins, lateral and transverse asymmetry, membrane dynamics and lipid-protein interactions, membrane enzymology, interactions of small molecules with membranes, cell surface receptors, signal transductions and membrane biogenesis. Note: Designed for advanced Honors and Specialization students and graduate students and offered in alternate years. Prerequisite: BIOCH 301 or equivalent or consent of Department.

BIOCH 609 Macromolecular Structure Analysis II
★3 (second term, 3-0-3). The principles of X-ray crystallography as applied to the study of protein and nucleic acid structure. Practical aspects of diffraction and structure solution will be demonstrated by a collaborative study of a suitable small molecule of biological interest. Designed for senior honors and graduate students. Prerequisite: Consent of instructor. Maximum enrollment of 10 students. Offered in alternate years.

BIOCH 623 Special Topics in Research on Polynucleotides
★2 (0-1s-0). This course is designed as a journal club and discussion group in which topics under the general heading of Current Research on nucleic acids are discussed. Specific talks range in scope from biochemistry, genetics and microbiology to nuclear biology and clinical aspects.

BIOCH 626 Special Topics in Protein Research
★2 (0-1s-0). A seminar course for advanced students. Detailed consideration is given to recent advances in research on protein structure and function and mechanism of enzyme action. Prerequisite: BIOCH 511 and 531 or consent of Department.

BIOCH 640 Special Topics in Research on Biomembranes
★2 (0-1s-0). A seminar course for advanced students covering selected topics from the current literature in the field of membrane structure and function. Prerequisite: BIOCH 590 or consent of Department.

BIOCH 671 Recent Advances
★4 (0-2s-0). A seminar course on topics of current interest in Biochemistry. Note: Open to Graduate students in Biochemistry only.

INT D 510 Lipid and Lipoprotein Metabolism
★3 (second term, 3-0-0). An advanced course which focuses on the metabolism of lipids and lipoproteins in eucaryotic cells and animal systems. Topics to be covered include regulation of fatty acids, triacylglycerol, phospholipid, cholesterol, sphingolipid and lipoprotein metabolism. In addition, the assembly of lipids and proteins into membranes and lipoproteins, secretion of lipoproteins, the dynamics of lipoproteins in circulation and the role of lipids and lipoproteins in atherosclerosis will be covered. Prerequisite: BIOCH 301 or equivalent. Offered in alternate years. (Offered jointly by Departments of Biochemistry and Medicine.)

Courses in clinical biochemistry are listed under §124.16 (Pathology).

124.6 Family Medicine

124.6.1 Undergraduate Course

Family Medicine is included in MED 411, MED 421, and MED 447.

F MED 446 Internship in Rural Family Medicine
★3 (4 weeks). For students in Phase III MD program only.

124.7 Health Services Administration and Community Medicine

124.7.1 Undergraduate Courses

Community Medicine

CO ME 411 Whole Class Lectures and Small Group Exercises
★2 (25 hours). The whole class lectures introduce students to epidemiological principles and methods, with emphasis on the application of these principles to clinical and community medicine. Available to medical students only.

CO ME 421 Small Group Discussion
★1 (18 hours). A series of small group discussions are designed to acquaint students with (1) the impact of an illness on an individual, (2) the patient's perception of members of the various health professions, (3) the medical/hospital milieu in determining patient behaviour, and (4) the special problems of the terminally ill. Available to medical students only.

CO ME 431 Formal Presentations
★1 (25 hours). A series of formal presentations on topics pertinent and relevant to the practice of occupational medicine, community health and professional responsibilities in relation to community and government services available in Alberta. Available to medical students only.

Health Services Administration

INT D 357 Health Care Economics
★3 (either term, 3-0-0). Resource allocation in the health care industry; production and cost relationships within various types of institutional settings (hospital, medical firm) the role of the price mechanism in allocating resources. Manpower planning; the role of the Government and professional groups in allocating resources in the non-price sector of the health industry. (Offered jointly by the Departments of Economics and Health Services Administration.) [Health Services Administration]

124.7.2 Graduate Courses

Community Medicine

The Master of Health Services Administration program is acceptable to the Council of the Royal College of Physicians and Surgeons of Canada as a portion of a specialty training program in community medicine.

Health Services Administration

H S A 400 Health and Welfare Delivery Systems
★3 (first term, 3-0-0). A review of the development of the Canadian health and welfare system and of its contemporary structure and functions.

H S A 401 Problems and Issues in Health and Welfare Delivery
★3 (second term, 3-0-0). An analysis of selected problems in the delivery of health and welfare services.

H S A 420 Structure and Process in Health and Welfare Service Agencies
★3 (first term, 3-0-0). An introduction to organizational theory and its application to the management of health and welfare agencies.

H S A 421 Management of Health and Welfare Service Agencies
★3 (second term, 3-0-0). Applications of social science theory and research findings to the administration of health and welfare agencies. Lectures and field projects.

H S A 430 Methods and Statistics in Health Services Administration I
★3 (first term, 3-0-0). An introduction to statistical models and research design as they relate to research and decision making in health service agencies.

H S A 431 Methods and Statistics in Health Services Administration II
★3 (second term, 3-0-0). An introduction to basic methodological procedures fundamental to research and decision making in health services administration.

H S A 435 Survey of Epidemiology
★3 (first term, 3-0-0). An introduction to the principles of epidemiology and the sources of data concerning the etiology and prevention of disease, with special reference to the planning of health programs.

H S A 450 Health Services Accounting and Finance
★3 (either term, 3-0-0). An introduction to managerial accounting with emphasis on understanding financial statements and their interpretation. This course will include budgeting and other managerial control techniques in the health care field.

H S A 460 Information Systems and Data Management in Health Services Administration
★3 (either term, 3-0-0). Introduction to computer systems, data structure, and computer files; use of packaged programs for efficient file management and data analysis; issues in health information systems and problem oriented medical information systems; review of selected hospital and other health information systems.

H S A 470 Introductory Health Care Economics
★3 (first term, 3-0-0). An introductory survey of macroeconomic, microeconomic, and public finance models relevant to the health care field.

H S A 471 Application of Economic Principles to Health Services Administration
★3 (second term, 3-0-0). A survey of health care economic theory and empirical studies. Topics and areas covered include (a) demand, supply, and utilization; (b) production and costs; (c) resource allocation in health care labour markets; (d) selected facets of health care planning; and (e) benefit-cost analysis. The empirical studies examined in this course require an understanding of simple and multiple regression techniques.

H S A 499 Field Practicum
★6 (Intersession, May 1-Aug 31). A four-month summer field experience practicum supervised by the faculty.

H S A 510 Ethical and Legal Issues in Health Services Administration
★3 (either term, 3-0-0). An examination of ethical and legal principles as they relate to health care with analyses of selected ethical and legal issues pertinent to health care administrators, researchers, and policy-makers.

H S A 513 Nursing Service Administration
★3 (second term, 3-0-0). Advanced analysis of major components in nursing service administration in diverse and rapidly changing health care systems, with particular emphasis on the changing role of chief nursing executives in health care agencies.

H S A 520 Advanced Topics in the Structure and Process of Health and Social Service Agencies
★3 (either term, 3-0-0). Topics in organizational theory related to health and social service agencies. Emphasis both on the evaluation of research findings and their application to management and policy. Prerequisite: H S A 420 or permission of instructor.†

H S A 530 Statistics for Health Services Administration
★3 (first term, 3-0-0). Intermediate level coverage of statistical methods for health services planning and research as applied to administrative planning, research, and problem solving in health service agencies. Prerequisite: H S A 431 or equivalent.

H S A 531 Research Methods in Health Services Administration
★3 (second term, 3-0-0). An overview of research needs, priorities, and approaches in health services planning and research. Emphasis on a practical, systematic and valid approach to improving the quality and quantity of health and welfare services. Prerequisite: H S A 530.

H S A 535 Problems and Issues in Epidemiology
★3 (second term, 3-0-0). Review and discussion of contemporary epidemiological problems from the viewpoint of multi-factorial etiology, and the application of epidemiological principles to the study of chronic disease and accidents.

H S A 550 Health Services Finance
★3 (first term, 3-0-0). Cost accounting and budget applications in health and welfare service agencies. Methods of formulating and implementing organization policy in the context of contemporary health and welfare financial structures and policies.

H S A 551 Problems and Issues in Health Services Finance
★3 (second term, 3-0-0). Critical analysis of selected issues and problems in health and welfare services finance.

H S A 560 Systems Analysis and Planning in Health Services Administration
★3 (first term, 3-0-0). Systems approach and management science, classification of patients and hospitals, hospital service population, survey designs and forecasting methods.

H S A 561 Operations Analysis and Planning in Health Services Administration
★3 (second term, 3-0-0). Operations research in the health care field: decision analysis, mathematical programming as applied to resource allocation and scheduling, elements of games theory as related to labour relations; queuing models and simulation techniques in planning and administration of health care delivery.

H S A 570 Health Care Economics
★3 (first term, 3-0-0). Methods of allocating resources to the health care sector of the economy. The role of individuals and organizations in the decision process.

H S A 571 Problems and Issues in Health Care Economics
★3 (second term, 3-0-0). Critical review and discussion of contemporary issues and problems in Canadian health care economics.

H S A 599 Research Practicum
★6 (Intersession, May 1-Aug. 31). A four-month research experience practicum supervised by the faculty.

H S A 600 Seminar on Policy and Planning Issues in Canadian Health and Social Services
★3 (first term, 0-3s-0). Canadian health and social service policy and planning issues are analyzed in an international context.

H S A 601 Project on Policy and Planning in Canadian Health and Social Services
★3 (second term, 0-3s-0). A field project devoted to the development of a long-term strategic plan for a health or social services agency.

H S A 610 Individual Directed Reading and Research
★3 (either term, 0-3s-0). Prerequisite: consent of Department. May be repeated.†

H S A 900 Non-Thesis project

THES 900 Thesis

THES 999 Thesis
†May not be offered in any given year, depending on student interest and available faculty resources.

124.7.3 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department for further information.

H S A 300 Health Care in Modern Society
★3 (either term, 3-0-0). An introduction to the structure and functions of the modern health care system.†

H S A 310 Hospital Organization and Management
★3 (either term, 3-0-0). An introduction to the principles and problems of organization and management of the modern hospital.†

H S A 350 Accounting and Finance in Health Service Agencies
★3 (either term, 3-0-0). An introduction to the principles and methods of accounting and finance in health and welfare organizations.†

H S A 351 Managerial Accounting in Health Service Agencies
★3 (either term, 3-0-0). The utilization of accounting and financial data for optimizing the efficiency and effectiveness of health services.†

H S A 410 Hospital Organization and Management
★3 (second term, 3-0-0). The historical, contemporary, and emergent structure, functions, and problems of the hospital as a community health resource.†

H S A 411 Medical Care Administration
★3 (second term, 3-0-0). The development of modalities for the delivery of medical care and their contemporary and emergent structure, functions, and problems.†

H S A 412 Social Welfare Administration
★3 (second term, 3-0-0). An introduction to the structure and functions of social welfare programs.†

H S A 451 Application of Managerial Accounting to Health Service Agencies
★3 (second term, 3-0-0). A review of budgeting and cost control techniques in health and welfare service agencies.†

H S A 500 Advanced Problems in Health Care Delivery
★3 (first term, 3-0-0). Critical analysis of contemporary policy problems and emerging trends in the structure of the health and welfare delivery system in Canada.†

H S A 511 Special Seminar in Health Services Administration
★3 (second term, 0-3s-0). Selected topics in quantitative methods as applied to research in health services administration.†

H S A 521 Advanced Health Services Administration
★3 (second term, 3-0-0). A study of the application of principles and procedures reviewed in H S A 520 to problems of health service management.†

H S A 630 Quantitative Techniques in Health Services Planning and Evaluation I
★3 (first term, 3-0-0). The application of quantitative techniques to the planning and evaluation of health services with particular emphasis on intra-institutional problems.†

H S A 631 Quantitative Techniques in Health Services Planning and Evaluation II
★3 (second term, 3-0-0). Application of quantitative techniques to the planning and evaluation of health services with particular emphasis on inter-institutional and systematic problems.†

124.8 Immunology

124.8.1 Undergraduate Courses

IMMUN 411 Introduction to Immunology
★2 (32 hours). A general introduction to immunology for students in Phase I of the M.D. program.

IMMUN 450 Cellular and Molecular Aspects of Immunobiology
★3 (either term, 3-0-0). Lectures presenting original experiments underlying the basis of modern molecular and cellular immunology. Topics include clonal selection theory, genetic basis of antibody diversity, genetic basis of T cell recognition, molecular basis of nonself recognition, cell interaction in immune responses, antigens, immunogens; MHC molecules and transplantation, concepts of tolerance and self-tolerance, molecular basis of effector mechanisms of immunity. Prerequisite: BIOCH 301, or ZOOL 242, or consent of Department.

Instruction in clinical immunology is included in MED 441. The Department of Immunology also offers elective undergraduate courses. Interested students should also consult the entries for the Departments of Genetics (§194.11), Microbiology (§194.22), and Zoology (§194.32) in the Faculty of Science section of the Calendar.

124.8.2 Graduate Courses

IMMUN 500 Basic Immunological Principles
★3 (first term, 3-0-0). A survey course consisting of lectures based on original factual and theoretical literature. Topics include the origin of antibody diversity, receptors on B and T cells, humoral and cell-mediated immunity, activation of lymphocytes, cellular collaboration, positive and negative regulatory mechanisms in immunity, phylogeny and ontogeny, self tolerance, unresponsive states, major histocompatibility complex antigens, autoimmunity, transplantation, and immunogentics. Offered alternate years. Prerequisite: IMMUN 450 or consent of Department.

IMMUN 501 Current Concepts in Immunology
★3 (second term, 0-3s-0). Lecture and seminar course on three to four areas of immunology of current interest based on original literature. The course will emphasize interpretation of published evidence based on theoretical models in the literature and will involve student participation. Offered sequentially with IMMUN 500 in alternative years. Prerequisite: IMMUN 500 or consent of Department.

IMMUN 502 Selected Topics in Immunology
★3 (either term, 2-1s-0). Lecture and Seminar course covering a particular area of Immunology in depth. Offered in alternate years. Prerequisite: IMMUN 500 or consent of Department.

124.9 Interdepartmental and Interfaculty Courses

124.9.1 Undergraduate Courses

The Faculty conducts some of its instruction on an interdepartmental and interfaculty basis. This is particularly so in relation to courses listed below.

INT D 357 Health Care Economics
★3 (either term, 3-0-0). Resource allocation in the health care industry; production and cost relationships within various types of institutional settings (hospital, medical firm) the role of the price mechanism in allocating resources. Manpower planning; the role of the Government and professional groups in allocating resources in the non-price sector of the health industry. (Offered jointly by the Departments of Economics and Health Services Administration.) [Health Services Administration]

INT D 370 Survey on International Health
★3 (second term, 3-0-0). Overview of health issues and organization in a cross-cultural context with emphasis on developing and newly industrialized countries. Prerequisite: Completion of 10 full courses in any program or consent of the instructor. (Nursing, Dentistry, Medicine, Pharmacy, Rehabilitation Medicine, and Social Sciences).

INT D 407 Intermediary Metabolism
★3 (first term, 3-0-0). A detailed description of enzymatic reactions in biosynthetic pathways of carbohydrate, amino acid, vitamin and coenzyme metabolism, emphasizing interrelationships among microbial and animal cells. Offered in alternate years. Prerequisite: BIOCH 301 and MICRB 311. [Microbiology]

MED 410 Medical Ethics and Jurisprudence
★1 (7 hours). Introduction to central issues in biomedical ethics and to the philosophical methods for dealing with them. Restricted to MD students.

MED 411 Clinical Skills
★4 (95 hours). An introductory course in the communication and clinical skills necessary for effective history taking and in the applied anatomy of the body regions.

MED 413 Introduction to Nutrition
★2 (36 hours). A general introduction to Nutrition for first year medical students.

MED 421 Mechanisms of Disease
★30 (512 hours). **Medically oriented subjects**: (a) Cardiology (48 hours), (b) Clinical Skills (38 hours), (c) endocrinology and Metabolism (42 hours), (d) Gastroenterology (50 Hours), (e) Growth and Development (34 hours), (f) Hematology (52 hours), (g) Medical Ethics

and Jurisprudence (9 hours), (h) Nephrology (35 hours), (i) Pulmonary (62 hours), (j) Paediatrics (6 hours). **Surgically oriented subjects**: (k) Opthalmology (24 hours), (l) Surgery (80 hours), (m) Urology (28 hours).

NEURO 421 Neurological Sciences
★5 (105 hours). An integrated course in neuroanatomy, neuropathology, neuroradiology, neuropharmacology, neurology, and neurosurgery. Instructors: members of the Departments of Anatomy and Cell Biology, Neurology, Neuroradiology, Neurosurgery, Pharmacology, and Pathology.

MED 432 Musculoskeletal Systems
★3 (first term, 73 hours). This interdivisional course will cover the following topics: orthopaedics, rehabilitation medicine and rheumatology. For third year medical students only.

MED 441 Clinical Problems
★0 (36 hours). A lecture series available to students in Phase III, MD program only.

MED 442 Review
★0 (56 hours). A review of topics in Internal Medicine. For fourth year medical students only.

MED 447 Elective
★0 (16 hours). An program of elective courses described in detail in the Faculty Electives catalogue. This program forms a mandatory part of Phase III. For third and fourth year medical students only. Consent of the instructor is required.

124.9.2 Graduate Courses

BINT D 510 Lipid and Lipoprotein Metabolism
★3 (second term, 3-0-0). An advanced course which focuses on the metabolism of lipids and lipoproteins in eucaryotic cells and animal systems. Topics to be covered include regulation of fatty acids, triacylglycerol, phospholipid, cholesterol, sphingolipid and lipoprotein metabolism. In addition, the assembly of lipids and proteins into membranes and lipoproteins, secretion of lipoproteins, the dynamics of lipoproteins in circulation and the role of lipids and lipoproteins in atherosclerosis will be covered. Prerequisite: BIOCH 301 or equivalent. Offered in alternate years. (Offered jointly by the Departments of Biochemistry and Medicine.)

BINT D 544 Physiology of Reproduction
★3 (second term, 3-0-0). [Physiology]

BINT D 545 Physiology of Transport Systems
★3 (second term, 3-1s-0). A consideration of transport mechanisms primarily from the physiological rather than biochemical viewpoint. Major models considered are the vertebrate erythrocyte and a variety of epithelia from vertebrates and invertebrates. Designed for advanced undergraduate and graduate students. Offered in alternate years. Prerequisite: PHYSL 310 or 352 or ZOOL 241 or ZOOL 242. [Physiology]

124.10 Medical Laboratory Science

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
PATH 231	MLSCI 250	PATH 401	MLSCI 401
PATH 291	MLSCI 191	CLBIO 408	MLSCI 460
CL PA 367	MLSCI 230	PATH 409	MLSCI 409
CL PA 369	MLSCI 260	PATH 503	MLSCI 430

MLSCI 320, 330, 340, 350, 360, and 370 are to be taken as a unit over a 52-week period. They are open to students of Medical Laboratory Science only or by special permission of the Division.

MLSCI 191 Introduction to Laboratory Medicine
★3 (second term, 3-0-3). Designed for first year students in the Medical Laboratory Science program. The course will introduce the students to those aspects unique to clinical laboratories including safety, instrumentation, medical terminology and quality assurance applied to reagents and methodology. Where appropriate, demonstrations of techniques and equipment will be included in laboratory sessions.

MLSCI 230 Hematology
★6 (3-0-6). Lectures: the use and interpretation of laboratory methods as diagnostic aids. Laboratory: exercises to develop a high degree of accuracy and reasonable speed in hematological and other clinical pathological procedures used in modern hospital laboratories. Prerequisite: PHYSL 161 or consent of Department. Corequisite: MLSCI 250.

MLSCI 250 Introduction to Histopathology
★3 (first term, 3-0-3). This course will deal with the structure of the cell, elementary histopathological processes and their appearances in tissue sections. The course content will include the theory and practice of light microscopy and the principles of electron microscopy. Students will be expected to acquire a detailed knowledge of the theory and application of the histological and histochemical techniques used to demonstrate the diagnostic features of disease processes. Studies will include the nature of malignant disease, including its application to exfoliative and aspiration cytology.

MLSCI 260 Clinical Biochemistry
★6 (3-0-3). Principles of instrumentation; quality control; clinical chemistry of blood and urine, gastric, kidney, and liver function tests; disturbances of acid-base, electrolyte, and mineral metabolism. Emphasis on critical appraisal of biochemistry methods as applied to the study of disease. Prerequisite: CHEM 100 or 104 and 160.

MLSCI 320 Report Writing/Teaching Assignment
★2 (50 hours). This course provides an opportunity for students of Medical Laboratory Science to do an in-depth review of the current literature on a specific topic and produce a report as a review. Further, students will have an opportunity to present topics to their peers in seminar style.

MLSCI 330 Clinical Hematology
★5 (clinical rotation). As a part of a clinical laboratory education for Medical Laboratory Science students, this course will provide experience in a modern hospital hematology laboratory along with weekly tutorials followed by comprehensive theoretical and practical examinations.

MLSCI 340 Clinical Microbiology
★5 (clinical rotation). As a part of a clinical laboratory education for Medical Laboratory Science students, this course will provide experience in a modern hospital microbiology laboratory along with weekly tutorials followed by comprehensive theoretical and practical examinations.

MLSCI 350 Histopathology
★3 (clinical rotation). As a part of a clinical laboratory education for Medical Laboratory Science students, this course will provide experience in a modern hospital histopathology laboratory along with weekly tutorials followed by comprehensive theoretical and practical examinations.

MLSCI 360 Clinical Biochemistry
★6 (clinical rotation). As a part of a clinical laboratory education for Medical Laboratory Science students, this course will provide experience in a modern hospital clinical biochemistry laboratory along with weekly tutorials followed by comprehensive theoretical and practical examinations.

MLSCI 370 Transfusion Medicine
★3 (clinical rotation). As a part of a clinical laboratory education for Medical Laboratory Science students, this course will provide experience in a modern hospital transfusion medicine laboratory, along with weekly tutorials, followed by comprehensive theoretical and practical examinations.

MLSCI 401 Medical Laboratory Science II
★6 (3-0-6). Lectures, seminars, and laboratory exercises on the approach and method of investigation of selected medical laboratory problems; laboratory planning and administration; the use of special equipment and techniques.

MLSCI 409 Special Project
★3 (second term, 0-0-3).

MLSCI 430 Advanced Haematology
★3 (second term, 3-0-0).

MLSCI 460 Clinical Biochemistry
★3 (second term, 3-0-0). Advanced lectures on special topics, including: lactic acidosis, gluconeogenesis, ethanol metabolism, cyclic AMP, prostaglandins, clinical enzymology, inborn errors of metabolism, purine metabolism, aging. Prerequisite: BIOCH 301, 372, or 400.

MLSCI 480 Molecular Genetic Approaches to the Study and Diagnosis of Disease
★3 (first term, 3-0-0). Emphasis on the application of techniques of molecular genetics to the practice of Medicine. General subject areas include: organization of the genome, techniques of molecular genetics and their application to medicine, molecular genetics and oncology, and ethical issues involving these techniques as applied to medicine. Prerequisite: GENET 197 and BIOCH 301 or equivalent.

MLSCI 490 Research Project
★6 (0-0-6). Supervisor and topic to be identified by student. Involves review of literature, adequate bench research, and a final report. Note: Available to Medical Laboratory Science students only. Enrollment limited.

124.11 Medical Microbiology and Infectious Diseases

124.11.1 Undergraduate Courses

MMID 224 Basic Virology
★3 (first term, 3-0-3). An introduction to the structure, replication, and taxonomy of bacteriophages, plant, insect, and animal viruses. Their role in disease and methods of control and detection will also be discussed. Prerequisite: BIOL 201 and MICRB 193. Credit may be obtained in only one of MMID 224 or MICRB 224. (See Calendar §194.22).

MMID 233 Medical Microbiology
★3 (either term, 3-0-3). General microbiology course dealing with micro-organisms, their nature, distribution and role in disease. Particular emphasis is placed on the epidemiology of infection, responsibilities of hospitals and prevention and control of infection. Course designed for students in the Nursing programs (RN and BSN) and others interested in medical microbiology.

MMID 361 Pathogenic Microbiology
★6 (3-0-3). The course considers the role of bacteria, viruses, fungi and parasites in human disease. Lectures emphasize mechanisms of microbial pathogenicity and immune response to infection. Laboratory emphasizes diagnostic procedures. Prerequisite: MICRB 193.

MMID 410 Special Projects
★3 (either term, 0-0-3).

MMID 421 Medical Microbiology and Infectious Diseases
★6 (136 Hours). An Introduction to the basic principles of medical microbiology and the investigation and treatment of infectious diseases. Restricted to Phase II medical students.

MMID 422 Bacteriology
★2.5 (first term, 38 hours). An introduction to general bacteriology, aspects of infection and resistance, selected examples of infectious diseases. Special bacteriology of the mouth, including dental caries and periodontal diseases. Course for dental hygiene and dentistry students.

MMID 425 Medical Virology
★3 (second term, 1-0-5). A detailed examination of the principles underlying the identification of viruses of medical importance. Strong emphasis will be placed upon the practical application and rationale of viral diagnostic methods. Prerequisite: MICRB 224 and consent of Department.

MMID 426 Medical Parasitology
★3 (second term, 3-0-3). A survey of the protozoan and metazoan parasites of man. Emphasis will be placed on laboratory methods for detection and identification as an aid to diagnosis and therapy. Prerequisite: A course in medical microbiology or consent of Department.

MMID 427 Medical Mycology
★3 (first term, 3-0-3). Laboratory study of the fungi associated with human disease with particular emphasis on the methods for demonstration, isolation and identification of pathogenic fungi. Attention will also be given to the epidemiology, serology and pathology of fungus diseases. Prerequisite: Introductory medical microbiology or microbiology or BOT 341.

124.11.2 Graduate Courses

MMID 501 Microbiology Literature Review
★3 (either term, 3-0-0). A supervised course dealing with current ideas in microbiology. Students attend discussion sessions in the Department and prepare seminars.

MMID 505 Mechanisms of Pathogenicity
★3 (first term, 3-0-3). A functional approach to the production of disease by microbes emphasizing the biochemical, immunological and physiological properties of host and microbe which account for a pathological process. Prerequisite: Introductory bacteriology or microbiology and biochemistry or consent of Department.

MMID 512 Special Projects
★3 (either term, 0-0-3).

MMID 520 Bacterial Plasmids
★3 (first term, 3-0-0). The biology of plasmids and plasmids as tools for molecular biology The structure and properties of various bacterial plasmids (antibiotic resistance plasmids, colicin and enterotoxin-producing plasmids) will be considered in light of our current understanding of the evolution of plasmids. The involvement of insertion sequences and transposons in plasmids organization will be discussed. The course will focus on the modes of plasmids DNA replication and the

means by which bacterial plasmids are maintained in host cells. Important plasmid-coded functions such as incompatibility and conjugative transfer will be discussed in detail. The effect of plasmids in human and veterinary medicine and on plant pathogenesis (the crown gall disease) will also be considered. The use of plasmids in genetic engineering including the choice of vectors, cloning methods and risks and benefits will complete the course. Note: Designed for advanced honors and graduate students and offered in alternate years. Prerequisite: BIOCH 301 and MICRB 193 or consent of Department.

MMID 525 Immunobiology of Virus Infection
★3 (first term, 2-1s-0). A lecture and seminar course designed for advanced undergraduates and graduate students as well as for residents in Medicine and Medical Microbiology and Infectious Diseases. The course will cover both normal and pathological immune reactions during viral infections. Both experimental and clinical infections will be dealt with during the lectures. Each student will also give a seminar on a selected topic on viral immunopathogenesis. Prerequisite: Consent of Department. Maximum enrollment 12. Offered alternate years during the fall term.

124.11.3 Resident Training

A complete residency program leading to fulfillment of specialist training requirments in medical microbiology is offered by the Department of Medical Microbiology and Infectious Diseases. In the course of the four-year program, residents pass through:
MMID 541 First Year Medical Microbiology
MMID 542 Second Year Medical Microbiology
MMID 543 Third Year Medical Microbiology
MMID 544 Fourth Year Medical Microbiology
and are assessed before promotion from year to year of the program. During the period of graduate specialty training, all residents are registered as full-time students in the Division of Postgraduate Medical Education of the Faculty of Medicine.

124.12 Medicine

124.12.1 Undergraduate Courses

MED 411 Clinical Skills
★4 (95 hours). An introductory course in the communication and clinical skills necessary for effective history taking and in the applied anatomy of the body regions.

MED 431 Topics in Clinical Skills
★1 (19 hours). For third year medical students only.

MED 433 Topics in Dermatology
★1 (16 hours). For third year medical students only.

MED 434 General Medicine
★1 (second term, 15 hours). General aspects of medicine with particular reference to local and systematic diseases of dental interest.

MED 436 Nephrology — Pathophysiology of Clinical Renal Disease and Related Disorders
★3 (first term, 29 hours). Indepth review of renal physiology and pathophysiology. Will cover normal mechanisms of acid base and fluid balance, renal function testing; pathophysiology associated with urinary tract infection; inflammatory and degenerative disorders, renal failure. Prerequisite: NURS 313 and consent of Division of Nephrology. Preference to students with interest and experience in nephrology nursing.

MED 445 Internship in Geriatrics
★3 (4 weeks). For students in Phase III MD program only.

MED 446 Student Internship
★9 (12 weeks). Student Internship for students in Phase III, MD program only.

124.12.2 Electives

MED 447 Elective
★0 (16 hours). An program of elective courses described in detail in the Faculty Electives catalogue. This program forms a mandatory part of Phase III. For third and fourth year medical students only. Consent of the instructor is required.

124.12.3 Graduate Courses

MED 501 Clinical Pulmonary Physiology
★3 (second term, 2-0-0). Basic and clinical lectures on: Lung Structure; Pulmonary Blood Flow; Airflow; Gaseous Diffusion; Ventilation/Perfusion Matching; Control of Ventilation; Oxygen Transport; Lung Defense; Mucociliary Transport; ARDS; Asthma; Exercise; Lung Growth; Surfactant; Lung Metabolism; Pulmonary Function Testing. Prerequisite: General courses in Physiology, Physics and Biochemistry or consent of Department.

INT D 510 Lipid and Lipoprotein Metabolism
★3 (second term, 3-0-0). An advanced course which focuses on the metabolism of lipids and lipoproteins in eucaryotic cells and animal systems. Topics to be covered include regulation of fatty acids, triacylglycerol, phospholipid, cholesterol, sphingolipid 4nd lipoprotein metabolism. In addition, the assembly of lipids and proteins into membranes and lipoproteins, secretion of lipoproteins, the dynamics of lipoproteins in circulation and the role of lipids and lipoproteins in atherosclerosis will be covered. Prerequisite: BIOCH 301 or equivalent. Offered in alternate years. (Offered jointly by Departments of Biochemistry and Medicine.)

MED 511 Molecular Biology in Medicine
★3 (second term, 3-0-0). This course will review the contributions of advances in molecular biology to the understanding of human diseases, with special emphasis on recombinant DNA and hybridoma technologies. Topics to be discussed will include the isolation and characterization of human genes, the production of pharmaceuticals and biologicals such as immune regulators and subunit vaccines by genetically engineered microorganisms, the molecular basis of selected genetic and infectious diseases, and the application of advanced technology to rapid diagnosis of viral infections and to prenatal diagnosis of genetic defects. Offered in alternate years. Prerequisite: BIOCH 300 or equivalent and consent of Department.

MED 571 Directed Reading in the Basic Medical Sciences
★3 (either term, 3-0-0). Reading and study of basic medical science topics relevant to the student's chosen field of study under the direction of one or more faculty members. Prerequisite: Consent of Department.

MED 573 Directed Reading in Clinical Medicine
★3 (either term, 3-0-0). Reading and study in a field of clinical medicine relevant to the student's chosen field of study under the direction of one or more faculty members. Readings currently available in GI Physiology, Experimental Hematology, Steroid Receptors, Cardiophysiology, Renal Physiology, and Endocrinology. Prerequisite: Consent of Department.

MED 575 Nutrition and Metabolism
★3 (1-1s-0). A seminar and discussion course in advanced nutrition and metabolism that examines current topics in nutrition and features regular seminars on alternate weeks throughout both terms of the winter session. A discussion group meets after each seminar. Preference will be given to graduate and postgraduate students in the area of nutrition and metabolism. Maximum enrollment of 15. Prerequisite: Consent of Department.

MED 673 Research Design and Data Analysis in Clinical Medicine
★3 (second term, 3-0-0). Application of statistical techniques, designing research projects, preparation of grant proposals, and techniques for evaluating the quality of research publications in medicine. Addresses experimental test tube, animal and human research as well as clinical trials using a critical, problem-solving, example-based approach. A basic course in statistics is a recommended prerequisite. Preference will be given to graduate and postgraduate students in the Department of Medicine. Maximum enrollment of 25.

124.12.4 Resident Training

Complete resident programs are offered in internal medicine and in the subspecialties of cardiology, gastroenterology, nephrology, neurology, pulmonary disease, rheumatology, infectious diseases, oncology, and endocrinology by the appropriate divisions of the Department of Medicine.

In the course of these programs, residents complete an appropriate period of training in internal medicine (two or three years depending on the subspecialty involved) followed by two years of advanced experience in the specialty concerned. Opportunities for both clinically oriented and basic research are made available during these latter two years. All programs are designed to meet the requirements of the Royal College of Physicians and Surgeons of Canada and in the course of the programs, which cover four years, residents pass through:
MED 541 First Year Medicine
MED 542 Second Year Medicine
MED 543 Third Year Medicine
MED 544 Fourth Year Medicine
and are assessed before promotion from year to year. Those electing a research experience as part of their programs may register in the Faculty of Graduate Studies and Research in a program leading to the MSc in experimental medicine. During the period of graduate specialty training, all residents are registered as full-time students in the Division of Postgraduate Medical Education of the Faculty of Medicine.

124.13 Neuroscience

124.13.1 General Information

The Division of Neuroscience in the Faculty of Medicine offers courses at the undergraduate and graduate levels. Additional courses in Neuroscience are offered by members of the division through individual departments such as Pharmacology, Physiology, Psychiatry, Psychology, Surgery, and Zoology. A graduate program leading to the MSc and PhD degrees has been proposed.

124.13.2 Undergraduate Courses

NEURO 471 Neuroscience I: Cells, Membranes and Molecules
★3 (first term, 3-0-0). Lectures presented by the Faculty of Medicine and the Faculty of Science on excitable membranes, action potential mechanisms, conduction and synaptic mechanisms; factors modifying degeneration, regeneration, development and learning. Prerequisite: PHYSL 310 or PSYCO 275 or ZOOL 241 or ZOOL 242.

NEURO 472 Neuroscience II: Systems
★3 (second term, 3-0-0). Lectures presented by the Faculty of Science and the Faculty of Medicine on visual and somatosensory systems, motor control via reflexes and central pattern generators; homeostasis, control of feeding, drinking, temperature and reproduction; neurobehavioral aspects of attention, arousal, cognition, memory and cerebral asymmetry. Prerequisite: PHYSL 310 or PSYCO 275 or ZOOL 241 or equivalent.

124.13.3 Graduate Courses

NEURO 500 Research in Neuroscience
★6 (0-0-6). A practical course in the neurosciences where students spend two months in each of at least three research laboratories approved by the Division's Graduate Committee. Students are expected to complete a research project, supervised by a member of the Division, in each of the research areas chosen. Students are evaluated on both their performance in the laboratory and reports written.

NEURO 503 Seminar in Neuroscience
★0.0 (0-1s-0). Neuroscientists from the University of Alberta and other institutions present their research findings and review recent literature in neuroscience.

PMCOL 509 Neuropharmacology
★3 (either term, 3-0-0). This course aims to provide an examination in depth of the mechanisms of action of drugs that influence the central nervous system. The course includes a review of basic membrane biophysics and transmitter biochemistry, before dealing with the major classes of centrally acting drugs. Time will also be devoted to selected special topics. Prerequisite: Consent of Department.

PSYCI 511 Biological Aspects of Psychiatry
★3 (second term, 3-0-0). Lectures and seminars on: classification, description and measurement of psychiatric disorders; sleep disorders; biochemical theories of psychiatric disorders, and discussions of how the actions of the drugs used to treat these disorders relate to these theories; practical aspects of drug treatment; biological markers; physical methodologies used in studying neurochemical aspects of psychiatry (gas chromatography - mass spectrometry, high pressure liquid chromatography, receptor binding techniques, etc.). Prerequisite: Permission of Department.

PMCOL 512 Neurotransmitters
★3 (either term, 3-0-0). Current concepts of neurotransmitters, neuromodulators and trophic factors are discussed in the context of the normal, diseased and developing nervous systems. Students should have some biological background either in physiology, pharmacology, zoology, or the neurosciences. Prerequisite: Consent of Department.

PSYCO 575 Advanced Physiological Psychology
★3 (second term, 3-0-0).

NEURO 603 Graduate Colloquium in Neuroscience
★3 (second term, 0-2s-0). Graduate students present review seminars or lead discussions based on required readings in the neurosciences. Coordinated by a member of the Division. Division members are invited to attend.

4.14 Obstetrics and Gynaecology

4.14.1 Undergraduate Courses

GY 431 Obstetrics and Gynaecology
(first term, 85 hours). An introduction to obstetrics gynaecology, including some topics in human sexu-y. For third year medical students only.

GY 446 Student Internship
(8 weeks). Student internship for students in Phase MD program only.

4.14.2 Resident Training

A complete four-year residency program is offered obstetrics and gynaecology by the Department of stetrics and Gynaecology and the affiliated hospitals, uding approved training in obstetrics and gynaecol-y and options in the same and related disciplines.

In the course of this program, which covers a nimum of four years, residents pass through:
GY 541 First Year Obstetrics and Gynaecology
GY 542 Second Year Obstetrics and Gynaecology
GY 543 Third Year Obstetrics and Gynaecology
GY 544 Fourth Year Obstetrics and Gynaecology
d are assesed before promotion from year to year of program by on-the-job assessment and formal ex-inations during the year. Every Wednesday afternoon devoted to formal resident education with visiting fessors, rounds, and seminars. During the period of duate specialty training, all residents are registered full-time students in the Division of Postgraduate dical Education of the Faculty of Medicine.

24.15 Oncology

24.15.1 Undergraduate Course

ICOL 431 Topics in Medical Oncology
(24 hours). For third year medical students only.

24.15.2 Graduate Courses

ICOL 520 Tumor Biology
(second term, 3-0-0). This course will make the dent familiar with a number of aspects of tumor logy which are critical to the understanding of the nesis and the behaviour of tumors. Specific topics to covered in detail include: Malignant transformation, rcinogenesis, the growth, differentiation and metasta-of tumors, genetic abnormalities and anomalies of ne expression, and selected topics of tumor metabo-m. Note: Offered in alternate years.

RA 530 Oncological Radiology
(first term, 3-0-0). An advanced description of the ects of ionizing radiation deposited in mammalian lls on cell biomolecules and function. Radiation-in-ced events will be discussed according to their time ale of action. Selected topics include a description of diation physical and radiation chemical mechanisms of evance in mammalian cells will be presented. Phe-menology of mammalian cell radiation response will discussed in the context of specific theoretical mod-, cellular endpoints of proliferative capacity, chromo-me aberration induction, mutation and cell transformation; diation damage in DNA and other biomolecules will be scribed. General topics include the extrapolation of llular radiation response to tissue effects, the radiobi-ogy of solid tumors and estimation of radiation risk at w doses. Note: Offered in alternate years.

24.16 Ophthalmology

24.16.1 Undergraduate Courses

Ophthalmology is included in MED 421, MED 446, d SURG 446.

24.16.2 Resident Training

The Department of Ophthalmology offers a graduate ining program which fulfills the requirements of the Royal College of Physicians and Surgeons of Canada. For residents requiring four years of training, a first year rotation through medical and surgical specialties related to ophthalmology is available, followed by three years of ophthalmic training. For residents requiring only three years of training, a straight three year ophthalmic program may be provided. Over the four-year period, a total of eleven places are available, thus annual vacancies number two or three. Residents pass through:
OPHTH 541 Pre-ophthalmology Rotation in Medicine and Surgery
and/or
OPHTH 542 First Year Ophthalmology
OPHTH 543 Second Year Ophthalmology
OPHTH 544 Third Year Ophthalmology
and are assessed before promotion from year to year of the program. During the period of graduate specialty training, all residents are registered as full-time students in the Division of Postgraduate Medical Education of the Faculty of Medicine.

124.17 Paediatrics

124.17.1 Undergraduate Course

PAED 431 Topics in Medical Genetics
★1 (22 hours). For third year medical students only.

PAED 446 Student Internship
★6 (8 weeks). Student internship for students in Phase III only.

124.17.2 Resident Training

A complete residency program is offered in paediatrics by the Department of Paediatrics, using affiliated hospitals and other child care facilities in Edmonton. During the course of this program, residents complete three years of basic training in child health and disease, followed by one further year of subspecialty training. Opportunities for basic and applied research are available. The four-year program is designed to meet the requirements of the Royal College of Physicians and Surgeons of Canada for certification in paediatrics, and residents pass through:
PAED 541 First Year Paediatrics
PAED 542 Second Year Paediatrics
PAED 543 Third Year Paediatrics
PAED 544 Fourth Year Paediatrics
and are assessed before promotion from year to year. During the period of graduate specialty training, all residents are registered as full-time students in the Division of Postgraduate Medical Education of the Faculty of Medicine.

124.18 Pathology

124.18.1 Undergraduate Courses

PATH 411 General Pathology
★3 (41 hours). Lectures on the pathological reactions of human tissues and laboratory periods.

PATH 421 Special Pathology
★3 (60 hours). Lectures on the special pathology of human disease and laboratory periods.

PATH 422 General Pathology
★3 (first term, 61 hours). Lectures on the principles of pathology, laboratory instruction in histo-pathology and an introduction to the functions of a pathology laboratory in a hospital.

124.18.2 Graduate Courses

Note: PATH 501 and 502 are intended for residents in pathology, medical microbiology, surgery, or medicine. There are currently no other graduate courses available on human diagnostic pathology. PATH 506 and 507 are intended for residents in pathology, medical microbiology, surgery or medicine, and graduate students from the medical laboratory science program. There are currently no other graduate courses available on medical biochemistry.

Note: Not all graduate courses are offered every year. The consent of Department should be consulted regarding the availability of graduate courses in any academic session.

PATH 501 Cellular and Tissue Structure and General Mechanisms of Disease
★6 (78 hours). Advanced seminars on the Cell Cycle; Instrumentation and Techniques of Electron Microscopy; Pathobiology of Lysosomes, Mitochondria and Endoplasmic Reticulum; Humoral and Cellular Mechanisms in Immunology; Hypersensitivity; Autoimmune Diseases; Immunology of Cancer; Immunodeficiency Diseases; Transplantation Immunity; Evaluation of Renal Function; Glomerular Disease; Renal Vascular Diseases; Renal Transplantation; Renal Tumors; Hormonal Mammary Dysplasia; Mammary Tumors; Liver Function Tests; Viral Hepatitis; Cholestasis; Alcoholic Liver Disease; Acute and Chronic Hepatitis; Neoplasms of Liver; Fetal and Neonatal Pathology; Diseases of the Placenta. To be offered in alternate years. Restricted to Postgraduate Medical Education students or consent of Department.

PATH 502 Cellular and Tissue Structure and General Mechanisms of Disease
★6 (78 hours). Advanced seminars on Collagen Structure and Function; Blood Coagulation; Bleeding Disorders; Thrombosis and Embolism; Shock; Atherosclerosis; Amyloidosis; Glycogen Storage Diseases; Diabetes Mellitus; Parathyroid Pathology and Metabolic Bone Disease; Disorders of Melanin Metabolism; Nevi and Melanomas; Pathology of Skeletal Muscle; Pathology of the Small Intestine; Pathology of the Colon; Pulmonary Pathology; Pathology of Lymphoid Organs; Parasitology. To be offered in alternate years. Prerequisite: PATH 501, or consent of Department. Restricted to Postgraduate Medical Education students or consent of Department.

PATH 504 Seminars in General Pathology
★1 (either term, 1-0-0).

PATH 506 Medical Biochemistry
★6 (2-0-0). Advanced seminars on instrumentation, Hepatic, Renal, Pancreatic Endocrine and Exocrine Functions; Enzymology and Diagnostic Applications of Enzyme Determinations, Hyperlipidemias. Prerequisite: Undergraduate courses in Medical Physiology and Biochemistry. To be offered in alternate years.

PATH 507 Medical Biochemistry
★6 (2-0-0). Advanced seminars on Metabolic Disorders of Carbohydrates and Amino Acids, Nutritional Deficiencies and Malnutrition, Endocrine Functions, Organization and Quality Control in Medical Biochemistry. Prerequisite: PATH 506 or consent of Department. To be offered in alternate years.

PATH 510 Cryobiology I
★3 (first term, 2-1s-0). Physiochemical changes in aqueous solutions at low temperatures and responses of living cells and tissues to those changes. Current theories of damage and protection during freezing and thawing.

PATH 511 Cryobiology II
★3 (second term, 2-1s-0). Freeze-thaw responses of enzyme systems, individual cells and organized tissues. Preservation of spermatozoa, blood and bone marrow cells, embryos and various tissues. Approaches to the cryoperservation of organs and whole organisms. Applications in medicine and agriculture. Prerequisite: Consent of Department.

PATH 520 Pathology Research Seminar
★1 (0-1s/2-0). Graduate seminars presented by graduate students, faculty and guests in the Department. Required of all pathology graduate students.

124.18.3 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department for further information.

PATH 505 Fundamentals of Histochemistry
★2 (first term, 2-0-0).

PATH 610 Subcellular Morphology
★2 (second term, 2-0-0).

124.18.4 Resident Training

Complete residency programs are offered in the various aspects of laboratory medicine by the Departments of Pathology, Medical Microbiology and Infectious Diseases, and the affiliated hospitals. Programs may be taken in the following branches of laboratory medicine: general pathology, anatomical pathology, haematological microbiology and neuropathology. In the course of these programs, which each covers a minimum of four years, residents pass through:
PATH 541 First Year Pathology
PATH 542 Second Year Pathology
PATH 543 Third Year Pathology
PATH 544 Fourth Year Pathology
and are assessed before promotion from year to year of the program. During the period of graduate specialty training, all residents are registered as full-time students in the Division of Postgraduate Medical Education of the Faculty of Medicine.

124.19 Pharmacology

124.19.1 Undergraduate Courses

PMCOL 222 Drugs, Medicine and Man
★3 (either term, 3-0-0). This course is designed to acquaint the student who has limited scientific background with many aspects of drug use and abuse in our society. Some of the topics to be covered will include mind-altering drugs, treatment of pain, herbal and folk medicine, antibiotics, nerve gases, and insecticides, food additives and vitamins, over-the-counter drugs, poisons, and toxins, and health quackery.

PMCOL 292 The Elements of Pharmacology
★3 (first term, 3-0-0). This course will provide an overview of pharmacology as a science from its earliest days to the present. Emphasis will be placed upon the development of concepts of drug action. The student will also be introduced to the standard methodologies of quantitative pharmacology. Prerequisite: Consent of instructor.

PMCOL 300 Introduction to Pharmacology
★3 (first term, 3-0-0). Lectures are used to illustrate the principles of pharmacology including rational application of commonly used drugs to the treatment of disease. This course is available only to students in the health professions.

PMCOL 301 Introduction to Pharmacology
★3 (first term, 3-0-0). Lectures are used to illustrate the principles of pharmacology including rational application of commonly used drugs to the treatment of disease. This course is available only to students in the Faculty of Nursing.

PMCOL 302 Introduction to Pharmacology
★3 (first term, 3-0-0). Lectures are used to illustrate the principle of pharmacology including rational application of commonly used drugs to the treatment of disease. This course is available only to students in the Physical Therapy program.

PMCOL 401 Pharmacology Tutorial
★3 (first term, 3-0-0). Research and Reading course.

PMCOL 402 Pharmacology Tutorial
★3 (second term, 3-0-0). Research and Reading course.

PMCOL 403 Introduction to Toxicology
★3 (first term, 3-0-0). Basic concepts involving the adverse effects of chemicals on biological systems are covered. Dose response and probit analysis are introduced. Ethanol, methanol and carbon monoxide toxicity serve as models to demonstrate some basic principals and standards. The role of drugs in cancer, toxic chemicals in the workplace, teratogenesis, and the toxic effects of drugs on organ systems are explored. Prerequisite: Consent of Department.

PMCOL 404 Opioids in Pharmacology
★3 (second term, 3-0-0). A detailed examination of the opioid drugs and opiate drug receptors. Topics covered include: systematic effects of opioid drugs and the natural ligands, synthesis, structure and functions of the endogenous ligands, effects on excitability in the CNS and on peripheral cells, opioid receptor subtypes, drug interactions, tolerance, and treatement of opioid addiction. This is a reading course with a weekly discussion session designed for honors and specialization students but open to any interested student with a suitable background. Prerequisite: Consent of Department.

PMCOL 405 Introduction to Drug Abuse
★3 (either term, 3-0-0). An introduction to the complexities of drug abuse and the drugs of abuse. The student will be introduced to the psychological and social problems of drug abuse and their impact upon the abuser. Objectives of the course are to develop an understanding of addiction and a detailed knowledge of the nature of the commonly abused substances. Emphasis will be placed upon the pharmacology of drugs of abuse. The specific drugs to be studied will vary, students will have a voice in determining the drugs to be studied. Prerequisite: Consent of instructor.

PMCOL 411 Principles of Pharmacology
★5 (72 hours). Lectures and tutorials are used to illustrate the basic principles of pharmacology. The course is offered only to medical students during Phase I of their program.

PMCOL 421 Basic Principles of Therapeutics and Toxicology
★3 (56 hours). Lectures and panel discussions are used to illustrate the principles of Toxicology and the rational use of drugs in the treatment of common diseases. The course is offered only to medical students during Phase II of their program.

PMCOL 431 General Pharmacology
★6 (3-0-0). The pharmacological actions of drugs selected for their physiological and clinical significance. Basic pharmacological principles are applied to representative clinically important drugs having their primary actions on various organ systems of the body. The course includes a study of chemotherapeutic agents used in the treatment of infections and neoplasia, and an introduction to management of poisoning cases. Restricted to students in the Faculty of Pharmacy.

PMCOL 432 General Pharmacology
★6 (3-0-3). The pharmacological actions of drugs selected for their physiological and clinical significance. Basic pharmacological principles are applied to representative clinically important drugs having their primary actions on various organ systems of the body. The course includes a study of chemotherapeutic agents used in the treatment of infections and neoplasia, and an introduction to management of poisoning cases. Available for graduate and science students. Prerequisite: BIOCH 301 or equivalent, and PHYSL 310 and consent of Department.

PMCOL 433 Topics in Therapeutics and Problem Solving.
★1 (23 hours). For third-year medical students only.

PMCOL 435 Experimental Procedures in Pharmacology
★3 (either term, 1-0-6). A laboratory course intended primarily for honours pharmacology students and advanced students in related disciplines. Using both intact and isolated tissue preparations students will perform a variety of experiments of types commonly encountered in pharmacological research. The laboratory sessions will include didactic material and instruction in animal handling, humane methods of euthanasia, anesthesia, body fluid sampling, administration of drugs and elementary surgical and dissection techniques required in the experiments. Prerequisite: Normally PMCOL 432 or an equivalent course is required as a prerequisite or corequisite. Consent of Department is also necessary.

PMCOL 436 Analytical Techniques
★3 (either term, 1-0-6). A laboratory course in which the use of biochemical techniques as applied to pharmacological problems will be emphasized. The course will include both a theoretical consideration of the procedures under study, together with practical instruction and practice in their execution. Prerequisite: Consent of Department.

PMCOL 498 Pharmacology Research Program
★6 (0-0-6). During their fourth year all honors candidates are required to carry out a program of directed research under the supervision of a staff member. This program will be related to the special interest of the student and will involve experimental work as well as a written report on the part of the student. Prerequisite: Consent of Department. Available to fourth year honors students only.

PMCOL 499 Pharmacology Honors Seminar
★0.0 (0-1s-0). All fourth year honors students will be required to present at least one seminar based upon a selected topic from the literature or from their research project during the course of the academic year. Prerequisite: Consent of Department. Available to fourth year honors students only.

124.19.2 Specialization/Honors Courses

The pharmacology courses which are are offered as part of of the BSc (Specialization/Honors) program are listed in §194 of this Calendar.

124.19.3 Graduate Course

Note: Not all graduate courses of the Department should be consulted regarding the prerequisites for and availabilty of graduate courses in any academic session.

PMCOL 501 Pharmacology Tutorial, Research and Reading Course
★3 (first term, 3-0-0).

PMCOL 502 Pharmacology Tutorial, Research and Reading Course
★3 (second term, 3-0-0). PMCOL 503 Pharmacology Tutorial, Research and Reading Course

PMCOL 503 Pharmacology Tutorial, Research and Reading Course
★3 (Intersession,3-0-0).

PMCOL 505 Cancer Chemotherapy
★3 (either term, 3-0-0). A survey of the cellular and biochemical pharmacology of agents currently employed in chemotherapy of neoplastic disease; drug metabolism, mechanisms of action and of resistance will be discussed. Given in sequence with Division of Oncology courses. Prerequisite: BIOCH 301 or equivalent and consent of Department.

PMCOL 506 The Actions of Drugs on Membranes
★3 (either term, 3-0-0). This course will examine the interactions of drugs with selected membrane lipid receptors, transporters and enzymes. Prerequisite: Consent of Department.

PMCOL 508 Molecular Pharmacology
★3 (either term, 3-0-0). This course aims to provide a understanding of the general mechanisms of drug actio at the molecular level. Theoretical aspects of dru receptor interaction are presented in detail followed by consideration of the mechanisms of signal transductio that have been associated with different receptor type Prerequisite: Consent of Department.

PMCOL 509 Neuropharmacology
★3 (either term, 3-0-0). This course aims to provide a examination in depth of the mechanisms of action drugs that influence the central nervous system. Thi course includes a review of basic membrane biophysic and transmitter biochemistry, before dealing with th major classes of centrally acting drugs. Time will also b devoted to selected special topics. Prerequisite: Cor sent of Department.

PMCOL 510 Advanced Topics
★3 (first term, 3-0-0).

PMCOL 511 Advanced Topics
★3 (second term, 3-0-0).

PMCOL 512 Neurotransmitters
★3 (either term, 3-0-0). Current concepts of neurotrans mitters, neuromodulators and trophic factors are dis cussed in the context of the normal, diseased an developing nervous systems. Students should have som biological background either in physiology, pharmaco ogy, zoology, or the neurosciences. Prerequisite: Cor sent of Department.

PMCOL 515 Cardiovascular Pharmacology
★3 (either term, 3-0-0). This course aims to provid instruction on current concepts of drug action at a molecul level, on both inotropy and rhythmicity the heart, and th selective control of the vasculature as well as providing a overview of current therapeutic options in the treatment c cardiovascular disease. Prerequisite: PMCOL 432 c equivalent and consent of Department.

PMCOL 600 Seminar in Pharmacology
★0 (0-1s-0).

PMCOL 602 Clinical Pharmacology
★3 (either term, 2-0-0). This course is aimed at provid ing residents in the Faculty of Medicine, together wit graduate students in Pharmacology, Phamacy, and Nursin with an understanding of the interaction of basic phar macological principles that occur during the therapeuti action of drugs in the treatment of disease. The cours takes the form of seminars that review clinical cases, wit explanatory input from a panel of experts on each aspec of the cae. Prerequisite: Consent of Department.

124.20 Physical Medicine and Rehabilitation

124.20.1 Resident Training

A complete four year residency training program i offered by the Division of Physical Medicine and Reha bilitation. In the course of the program, residents com plete two years of approved training in physical medicin and rehabilitation and two years of training in the relate disciplines of neurology, orthopaedics, and interna medicine. In the course of this program, which covers minimum of four years, residents pass through:

PHMED 541 First Year Physical Medicine an Rehabilitation Medicine
PHMED 542 Second Year Physical Medicine an Rehabilitation Medicine
PHMED 543 Third Year Physical Medicine an Rehabilitation Medicine
PHMED 544 Fourth Year Physical Medicine an Rehabilitation Medicine

and are assessed before promotion each year. Durin the period of graduate specialty training, all residents ar registered as full-time students in the Division of Post graduate Medical Education of the Faculty of Medicine.

124.21 Physiology

124.21.1 Undergraduate Courses

Details on the BSc Program in Physiology can be found in §193.19.

PHYSL 161 Elementary Physiology
★6 (3-0-1;3-0-1). Available only to students in the Fac ulty of Rehabilitation Medicine (Physical Therapy an

ccupational Therapy) and the Medical Laboratory Sci-nce program in the Faculty of Medicine.

HYSL 162 Elementary Physiology
6 (3-0-0). Available only to students in the Faculty of ursing.

HYSL 310 Physiology
6 (3-0-0). Introductory course in mammalian and uman physiology. Prerequisite: ZOOL 120, CHEM 100 r 104 or 204, CHEM 160 or 260. Departmental ap-roval is required for those students who have taken, or ish to take ZOOL 241 or 242 for credit.

HYSL 352 Human Physiology
6 (3-0-0;3-0-3). An introductory course on mammalian nd human physiology. Available only to students in the aculties of Pharmacy and Home Economics.

HYSL 401 Molecular and Cellular Physiology
3 (first term, 3-0-0). A course which covers the mo-ecular and cellular aspects of physiological processes. ome of the main areas covered will be the structure nd functions of plasma membranes with emphasis on ransport processes and their regulation. The mecha-ism of action of hormones (hormone-receptor interac-ions, receptor regulation and interactions of intracellular ediators), ionic channels, synaptic transmission, neu-onal development and molecular mechanisms for learning nd memory. The physiological significance of these rocesses will be stressed throughout. Prerequisite: HYSL 310 and consent of the instructor.

HYSL 404 Cardiovascular Physiology
3 (second term, 3-0-0). The course will emphasize eneral concepts in human cardiovascular physiology: roperties of the myocardium, hemodynamics and con-rol of the cardiovascular system; there will be limited iscussion of relevant clinical situations. Prerequisite: HYSL 310 or equivalent.

HYSL 410 Modern Techniques in Physiology
3 (second term, 0-0-6). Students will rotate through everal laboratory exercises which will illustrate some urrently used techniques in physiology. Areas will in-lude endocrinology, neurophysiology, membrane and ell physiology. Prerequisite: PHYSL 310 and 401, or onsent of Department.

HYSL 411 Medical Physiology
6 (136 hours). Open to medical students only. Con-ists of a comprehensive lecture course in mammalian nd human physiology, designed to fulfill the requirements f medical students.

124.21.2 Graduate Courses

HYSL 401 Molecular and Cellular Physiology
3 (first term, 3-0-0). A course which covers the mo-ecular and cellular aspects of physiological processes. ome of the main areas covered will be the structure nd functions of plasma membranes with emphasis on ransport processes and their regulation. The mecha-ism of action of hormones (hormone-receptor interac-ions, receptor regulation and interactions of intracellular ediators), ionic channels, synaptic transmission, neu-onal development and molecular mechanisms for learning nd memory. The physiological significance of these rocesses will be stressed throughout. Prerequisite: HYSL 310 and consent of the instructor.

HYSL 404 Cardiovascular Physiology
3 (second term, 3-0-0). The course will emphasize eneral concepts in human cardiovascular physiology: roperties of the myocardium, hemodynamics and con-rol of the cardiovascular system; there will be limited iscussion of relevant clinical situations. Prerequisite: HYSL 310 or equivalent.

HYSL 410 Modern Techniques in Physiology
3 (second term, 0-0-6). Students will rotate through everal laboratory exercises which will illustrate some urrently used techniques in physiology. Areas will in-lude endocrinology, neurophysiology, membrane and ell physiology. Prerequisite: PHYSL 310 and 401, or onsent of Department.

EUROL 471 Neuroscience I: Cells, Membranes and Molecules
3 (first term, 3-0-0). Lectures presented by the Faculty of Medicine and the Faculty of Science on excitable membranes, action potential mechanisms, conduction and synaptic mechanisms; factors modifying degeneration, regeneration, development and learning. Prerequisite: PHYSL 310 or PSYCO 275 or ZOOL 241 or ZOOL 242.

EUROL 472 Neuroscience II: Systems
3 (second term, 3-0-0). Lectures presented by the Faculty of Science and the Faculty of Medicine on visual and somatosensory systems, motor control via reflexes and central pattern generators; homeostasis, control of feeding, drinking, temperature and reproduction; neu-robehavioral aspects of attention, arousal, cognition, memory and cerebral asymmetry. Prerequisite: PHYSL 310 or PSYCO 275 or ZOOL 241 or equivalent.

PHYSL 501 Topics in Cardiovascular Physiology
3 (second term, 3-0-0).

PHYSL 502 Problems in Current Research
3 (either term, 0-0-6). Individual study.

PHYSL 506 Tutorial and Seminar Course
3 (either term, 3-0-0). Guided reading course.

INT D 543 Current Problems in Neuroendocrinology
3 (second term, 3-0-3). Discussion of selected topics in neuroendocrinology. Prerequiste: ZOOL 343 or PHYSL 401. Credit for this course may be obtained more than once. Offered alternate years.

INT D 544 Physiology of Reproduction
3 (second term, 3-0-0). [Physiology]

INT D 545 Physiology of Transport Systems
3 (second term, 3-1s-0). A consideration of transport mechanisms primarily from the physiological rather than biochemical viewpoint. Major models considered are the vertebrate erythrocyte and a variety of epithelia from vertebrates and invertebrates. Designed for advanced undergraduate and graduate students. Offered in alternate years. Prerequisite: PHYSL 310 or 352 or ZOOL 241 or 242. [Physiology]

124.21.3 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department for further information.

PHYSL 503 Biophysics of Nerve and Muscle
3 (second term, 3-0-0).

PHYSL 505 Topics in Neurophysiology
3 (first term, 3-0-0).

124.22 Psychiatry

124.22.1 Undergraduate Courses

PSYCI 421 Introduction to Psychiatry
2 (34 hours). The course consists of 34 one-hour lectures outlining the major syndromes and conditions in clinical psychiatry.

PSYCI 446 Student Internship
6 (8 weeks). Student internship for students in Phase III, MD program only.

124.22.2 Graduate Courses

PSYCI 511 Biological Aspects of Psychiatry
3 (second term, 3-0-0). Lectures and seminars on: classification, description and measurement of psychiatric disorders; sleep disorders; biochemical theories of psychiatric disorders, and discussions of how the actions of the drugs used to treat these disorders relate to these theories; practical aspects of drug treatment; biological markers; physical methodologies used in studying neurochemical aspects of psychiatry (gas chromatography - mass spectrometry, high pressure liquid chromatography, receptor binding techniques, etc.). Prerequisite: Permission of Department.

124.22.3 Resident Training

A complete residency program in psychiatry, meeting the requirements of the Royal College of Physicians and Surgeons of Canada, is offered by the Department of Psychiatry, and utilizes the University Hospital and other affiliated hospitals, clinics and services. During the program, residents complete two years of approved university-based training in psychiatry, and in addition, two further years of related clinical, basic science or research work. During the four years, residents pass through:
PSYCI 541 First Year Psychiatry
PSYCI 542 Second Year Psychiatry
PSYCI 543 Third Year Psychiatry
PSYCI 544 Fourth Year Psychiatry
and are assessed periodically. Residents attend a series of seminars of approximately 400 hours, covering clinical psychiatry, basic sciences, and related topics. All residents are registered as full-time students in the Division of Postgraduate Medical Education of the Faculty of Medicine.

124.23 Radiology and Diagnostic Imaging

124.23.1 Undergraduate Courses

Undergraduate training in radiology is included in ANAT 411, MED 421, MED 431 and NEURO 421.

RADDI 446 Student Internship
3 (4 weeks). Student Internship for students in Phase III, MD program only.

124.23.2 Graduate Course

RADDI 511 Physics of Diagnostic Imaging - Fundamentals
3 (2-0-1). This course is divided into two main sections:

(1) Basic Radiation Physics which deals with nuclear and atomic structure using the Bohr model; Radiation Dose, Risk and Safety from low-level ionizing radiation to Diagnostic Radiology, Radiobiology.

(2) General Radiography: production and clinical use of X-rays; the radiographic image and image parameters; patient radiation/imaging concepts.

There will be also a lab component where the student will spend an average of one hour per week in a diagnostic procedure room completing specified imaging tasks/lessons. These labs will not be held at specific times, but will be arranged individually for each student. This course will be offered in alternate years to RADDI 512. Prerequisite or corequisite: PHYS 475/477 or consent of Department.

RADDI 512 Physics of Diagnostic Imaging - Imaging Modalities
3 (2-0-0). This course will build on the curriculum present in RADDI 511 and will discuss in detail the physics involved in the following imaging modalities: Fluoroscopy, Conventional Tomography, Digital Techniques (DSA), Computed Tomography (CT), mammography, Nuclear Medicine, Ultrasound, Magnetic Resonance Imaging (MRI). This course will be offered in alternate years to RADDI 511. Prerequisite or corequisite: RADDI 511, PHYS 475/477 or consent of Department.

ON RA 530 Oncological Radiology
3 (first term, 3-0-0). An advanced description of the effects of ionizing radiation deposited in mammalian cells on cell biomolecules and function. Radiation-induced events will be discussed according to their time scale of action. Selected topics include a description of radiation physical and radiation chemical mechanisms of relevance in mammalian cells will be presented. Phenomenology of mammalian cell radiation response will be discussed in the context of specific theoretical models, cellular endpoints of proliferative capacity, chromosome aberration induction, mutation and cell transformation; radiation damage in DNA and other biomolecules will be described. General topics include the extrapolation of cellular radiation response to tissue effects, the radiobiology of solid tumors and estimation of radiation risk at low doses. Note: Offered in alternate years.

RADDI 600 Special Topics in Radiology Research
2 (second term, 0-2s-0). A seminar course for advanced students covering selected topics from the current literature in the fields of medical imaging, radiological physics, radiation biology and radiation biophysics.

124.23.3 Resident Training

Diagnostic Radiology
A complete residency program is offered in diagnostic radiology by the Department of Radiology and Diagnostic Imaging and the affiliated hospitals. In the course of this program, residents complete four years of training as approved by the Royal College of Physicians and Surgeons of Canada enabling the resident to sit the Royal College Examinations in Diagnositic Radiology. Residents pass through:
RADDI 541 First Year Diagnostic Radiology
RADDI 542 Second Year Diagnostic Radiology
RADDI 543 Third Year Diagnostic Radiology
RADDI 544 Fourth Year Diagnostic Radiology
Residents are assessed before promotion from year to year of the program. During the period of graduate specialty training, all residents are registered as full-time students in the Division of Postgraduate Medical Education of the Faculty of Medicine.

Nuclear Medicine
A complete residency program is offered in nuclear medicine by the Department of Radiology and Diagnostic Imaging and affiliated hospitals. The training meets

the requirements of the Royal College of Physicians and Surgeons of Canada and qualifies the resident to sit the specialty examinations in Nuclear Medicine set by the Royal College of Physicians and Surgeons. In the course of this program, residents complete two years of approved training in nuclear medicine, one year of approved training in other imaging modalities, and one year of approved training in a variety of options in related disciplines. In the course of this program, taking a minimum of four years, residents pass through:

RADNM 541 First Year Nuclear Medicine
RADNM 542 Second Year Nuclear Medicine
RADNM 543 Third Year Nuclear Medicine
RADNM 544 Fourth Year Nuclear Medicine

Residents are assessed before promotion from year to year of the program. During the period of graduate specialty training, all residents are registered as full-time students in the Division of Postgraduate Medical Education of the Faculty of Medicine.

Radiation Oncology

A complete residency program is offered in radiation oncology by the Department of Radiology and Diagnostic Imaging and the affiliated hospitals. The program fulfills the criteria set by the Royal College of Physicians and Surgeons of Canada and on successful completion of the program, allows the resident to sit the Royal College of Physicians and Surgeons of Canada examinations in Radiation Oncology. In the course of this program, residents complete three years of approved training in radiation oncology and one year in related disciplines. In the course of this program, residents complete three years of approved training in Radiation Oncology and one year of approved training in related disciplines. In the course of this program, which covers a minimum of four years, residents pass through:

RADTH 541 First Year Radiation Oncology
RADTH 542 Second Year Radiation Oncology
RADTH 543 Third Year Radiation Oncology
RADTH 544 Fourth Year Radiation Oncology

Residents are assessed before promotion from year to year of the program. During the period of graduate specialty training, all residents are registered as full-time students in the Division of Postgraduate Medical Education of the Faculty of Medicine.

124.24 Surgery

124.24.1 Undergraduate Courses

Surgery is included in MED 421 and MED 432.

SURG 431 Topics in Otolaryngology
★1 (16 hours). For third year medical students only.

SURG 446 Student Internship
★9 (12 weeks). Student internship for students in Phase III only.

124.24.2 Graduate Courses

SURG 500 Experimental Surgery
★3 (second term, 0-0-3). Designed to introduce MSc and PhD candidates to basic experimental surgical procedures. Course will include: (a) surgical anatomy of laboratory animals, (b) basic surgical methods, (c) selected methods in experimental surgery. Prerequisite: Consent of Department.

SURG 520 Directed Reading in Biomedical Research
★3 (2-0-0). Lecture series on research techniques in the biomedical sciences intended for students with an advanced medical background. Prerequisite: Consent of Department

SURG 530 Directed Reading in Biology and Medicine
★3 (either term, 3-0-0). Reading and study of topics in biomedical research of relevance to the student's interest under direction of one or more faculty members.

SURG 600 Research Seminar
★2 (0-1s-0). A weekly series of seminars on current research is held during both terms. Graduate students must attend and make two presentations in this series.

124.24.3 Resident Training

Complete residency programs are offered in general surgery, neurosurgery, plastic surgery, orthopaedic surgery, otolaryngology, thoracic and cardiovascular surgery, and urology by the Department of Surgery. Clinical experience is provided in the affiliated hospitals. All programs are designed to fulfill the requirements of the Royal College of Physicians and Surgeons of Canada, and include appropriate experience in related disciplines. The educational content of the clinical program is enriched through the provision of seminar courses designed officially to meet the needs of trainees at various levels of the program, in addition to usual ward rounds and conferences conducted within the Department. Excellent facilities are available for basic research, which is an integral part of the program for most subspecialties. Trainees electing to prepare for a graduate degree may register in the Faculty of Graduate Studies and Research in programs leading to the MSc and PhD in experimental surgery.

During the period of graduate specialty training, which covers a minimum of four years, residents pass through:

SURG 541 First Year Surgery
SURG 542 Second Year Surgery
SURG 543 Third Year Surgery
SURG 544 Fourth Year Surgery

and in the case of some subspecialty programs where a minimum of five years is required

SURG 545 Fifth Year Surgery

They are assessed before promotion from year to year of the program, and during the period of graduate specialty training, all residents are registered as full-time students in the Division of Postgraduate Medical Education of the Faculty of Medicine.

124.25 Courses by other Faculties

The following table lists renumbered courses effective 1991-92:

Old	New
BIOL 197	GENET 197

124.25.1 Medical Laboratory Science Program

The courses listed below are required in the first year of the Medical Laboratory Science program.

CHEM 100 Introductory University Chemistry
★6 (3-1s-3). Stoichiometry; ideal gases; claorimetry, chemical energy. Hess' Law; equilibrium, acids, bases; bonding; solubility products; oxidation-reduction, electrochemical cells and the Nernst equation; coordination chemistry; chemical kinetics, with applications to inorganic chemistry. Prerequisite: Chemistry 30, or equivalent. Students enrolled in MATH 113 or MATH 114 should register in CHEM 104.

CHEM 160 Organic Chemistry
★6 (3-0-3). The study of functional groups found in the main classes of organic compounds and their molecular conformation and stereochemistry in such a way that the chemistry of some molecules important to biology (eg., amino acids, proteins, medicinals, pesticides, fats, sugars, carbohydrates, nucleic acids) as well as some molecules found in everyday life (soaps, detergents, fibers, perfumes, polymers, etc.) can be discussed. Note: Students with credit in CHEM 100 or 104 normally will proceed to CHEM 260. Such students may enroll in CHEM 160 only if written consent of Department is obtained. Prerequisite: Chemistry 30 or equivalent.

MICRB 193 Introductory Microbiology
★3 (either term, 3-0-4/2). This course provides an introduction to the biology and practical significance of bacteria, viruses and fungi. It describes the structure, nutrition and physiology of microorganisms in a variety of natural and controlled environments. The beneficial and harmful roles of microorganisms in the ecosphere, infectious diseases, industrial processes and biotechnology will be discussed. The laboratory presents a combination of exercises and demonstrations designed to give the student experience in the handling and examination of microorganisms. Prerequisite: Biology 30 and Chemistry 30.

GENET 197 Heredity
★3 (either term, 3-0-3). The cellular and molecular basis of the transmission of hereditary characteristics: Mendelian inheritance and its cytological basis; microbial genetics; cytoplasmic inheritance; linkage and genetic mapping; DNA as genetic material; gene action; the genetic code. Note: Students cannot receive credit for both GENET 197 and GENET 351. Those taking GENET 197 should take GENET 275 for the equivalent of GENET 351. Prerequisite: Biology 30.

University of Alberta
Edmonton

1991/92 Calendar

School of Native Studies

School of Native Studies

131 Introductory

131.1 Members of the School

131.1.1 Officers of the School

Director and Associate Professor
RT Price, MA

Secretary
B Findlay

131.1.2 Academic Staff

Assistant Professor (Cree Language)
E Hunter

Adjunct Professor
D Brown, PhD

Research Associate
M Asch, PhD

131.1.3 Members of the School Council

The School Council was established in 1987 under the authority of the Universities Act and the General Faculties Council (GFC). The composition of the School Council, which was approved by the General Faculty Council in 1984, strikes a balance between the needs of the two primary constituencies — the members of the University community and the Native community. The needs of both constituencies are viewed as complimentary.

In the 1984 rationale for the School Council, the University was to have the majority of members on the Council because "the University is ultimately responsible for the course of study and granting of the academic degree." Also, the University was seen to have an important role in ensuring the academic integrity and excellence of Native Studies. The common commitment to excellence of all School Council members was viewed as a unifying factor. The Native community was given strong representation on the School Council, and it was recognized that Native community influence on the School's program, was vital for the School to achieve its potential.

Accordingly, the School Council is composed of: six Native Studies Faculty members (or other University of Alberta faculty members, who are competent in some area of Native Studies); six Faculty members representing the range of disciplines most affected by the School; six members of the Native Community; plus two Native Studies students, and four ex-officio members (the President, the Registrar, the Director of Native Student Services, and the Director of the School of Native Studies, who shall serve as the Chair of the Council).

Members of the School serve varying terms of office. Strong effort is made to ensure a balanced and fair representation of Native community representatives, especially from Alberta, but also from the NWT and the Yukon. The current members of the School Council who have been appointed by the Vice-President are:

Ex-officio Members
P Davenport, PhD
BJ Silzer, MEd
P Miller, PhD
RT Price, MA

Native Community Representatives
G Buffalo
R Gruben
L McDonald
D Richardson
F Thomspon

University Community Representatives

a. Native Studies Faculty (or Native Studies expertise)

M Asch, PhD, Anthropology
J Foster, PhD, History
M Freeman, PhD, Anthropology
E Hunter, School of Native Studies
T Pocklington, PhD, Political Science

b. Representatives from other Faculties

M Assheton-Smith
M Cox-Bishop
A McLellan
S Pawluk

c. Native Student Representatives

to be named

131.2 General Information

The establishment of an academic unit focusing on Native Studies has been discussed within the University of Alberta since 1972, when such a unit was proposed in a University Senate Committee meeting by representatives of the Indian Association of Alberta.

In 1978, twenty recommendations were made to the University Senate by their task force regarding improved service to Native people and a more coherent involvement in Native Studies. In that same year, General Faculties Council of the University of Alberta established a Standing Committee on Native Studies consisting of University of Alberta faculty members and students and representatives of the Native community at large.

After several years of research, discussion, and consultation with interested individuals and groups, both inside and outside the University, the Committee on Native Studies opted in favour of an ambitious rather than a modest program of Native Studies.

The Committee on Native Studies proposed the establishment of a School of Native Studies that would be multi-disciplinary in character, instead of a small department that would confine itself to Native history, language, and culture. The School would offer a wide range of courses leading to a Bachelor of Arts degree in Native Studies, as well as minor concentrations for students in other faculties. Faculty members and students would engage in research with special attention to language and land use. Though not parochial in its outlook on Native Studies, the School would pay particular attention to Native peoples - Indian, Inuit, and Metis of the Canadian West and North.

The establishment of a School of Native Studies and a Bachelor of Arts in Native Studies were approved by the General Faculties Council and the Board of Governors of the University in the Spring of 1984. In 1988, the General Faculties Council and the Government of Alberta approved a program of study leading to the Bachelor of Arts in Native Studies. In the same year, the Universities Coordinating Council, which coordinates programs offered by the four Alberta universities, also approved the School and the degree.

The School of Native Studies is an academic unit concerned primarily with teaching and research. As such, it is separate both administratively and functionally from the Office of Native Student Services.

131.3 The Objectives of the School of Native Studies

(1) To incorporate academic study and learned discourse in Native Studies and Native issues in a multi-disciplinary administrative unit.

(2) To promote research which will be of benefit to the community generally.

(3) To promote research which will be of specific benefit to Native people and Native communities, for example, by providing information about alternatives in development.

(4) To promote research which will be of benefit to the other disciplines which contribute to that area of study.

(5) To promote the inclusion of Native people in the study of Native people and Native issues.

The specific goals of the School are:

(1) To develop a program, through the initiation of course offerings and the use of existing courses, leading to the degree of Bachelor of Arts in Native Studies.

(2) To develop and encourage multi-disciplinary research programs in Native Studies, in cooperation with other agencies of the University and with the Native community.

(3) To develop courses which may be of service to other academic units of the University, either as options or as secondary fields of concentration.

(4) To coordinate with the Division of Special Sessions off-campus offerings of particular interest or importance to Native communities.

(5) To cooperate with the Faculty of Extension in the offering of non-credit courses, when those are of particular interest or importance to Native people.

These objectives and goals will be phased in gradually, each new phase based on a record of accomplishment in the previous one, both in regard to academic excellence and in service to the community.

132 School Regulations

The General Faculties Council (GFC) policies and regulations that apply to all Faculties and Schools apply to the School of Native Studies.

The requirements of the BA in Native Studies are comparable to those of the Faculty of Arts. This includes such matters as academic standards and academic performance regulations.

132.1 Admission and Transfer

The normal admission requirements of the School of Native Studies will be found in §13.4.11 of this Calendar. Additional general admission information can be found in §§13.8 to 13.9 of this Calendar.

(1) **Non-Matriculated Applicants:** Refer to §13.8.8 of this Calendar for admission criteria. Following admission as a non-matriculated applicant, successful completion of the normal first year of the BA program will stand in lieu of matriculation. An applicant who fails half, or more than half, of the 30 units of course weight in first year, will be required to withdraw from the School of Native Studies, and must complete matriculation requirements before being considered for readmission.

(2) **Language Requirement:** Students admitted to the School of Native Studies must either present Alberta Grade 12 standing or equivalent in a language other than English or take such a course during the first year as part of the program. Matriculated students will not receive credit for the course towards the BA program; non-matriculated applicants will receive credit. Please refer to §132.5 Cree Exams.

Note: Students without a recognized course in a Native Language must register in a Native Studies language course during their first year of study in the program.

(3) **English Language Proficiency:** For details see §13.2.2 of this Calendar.

(4) **Transfer from other faculties in the University:** Students in good standing in their past year's work in another faculty at the University of Alberta may transfer to the School of Native Studies for the regular academic session by submitting an Application for Readmission or On-Campus transfer form to the Registrar's Office. Refer to §14 of this Calendar for School deadlines. Transfer credit for course work already taken which is applicable to the Native Studies program, will be given. Transferring students will be required to clear any matriculation

deficiencies specific to the School of Native Studies. This may be done by taking a suitable course, or courses, at the junior level. Students must register in these courses in the first year in the School. The decision as to whether or not courses will be accepted for degree credit rests with the Director and depends on the nature of the deficiency.

Students with unsatisfactory standing in their past year's work in another faculty may be required to obtain a recommendation from Student Counselling Services before their application for transfer will be considered.

(5) **Course Load Requirement:** Students taking a program of 120 units of course weight in the School of Native Studies must have credit for at least 60 units of course weight from the University of Alberta. The final 30 units of course weight of the program must be taken at the University of Alberta campus.

The Director may make an exemption from this regulation for exceptional circumstances. Students who have fulfilled the 60 units of course weight requirement before beginning the final year may apply to the Director for permission to take one or more of the final 30 units of course weight elsewhere. Also refer to §16.2 of this Calendar.

(6) **Readmission after Requirement to Withdraw:** Normally at least one calendar year must elapse before readmission will be considered.

Readmission of non-matriculated applicants after a failure in half, or more than half, of the 30 units of course weight in first year will be considered only after matriculation requirements have been completed.

132.2 Registration and Changes of Registration

Deadlines are strictly adhered to. See §14.2 of this Calendar.

For further information refer to §15.1 of this Calendar.

(1) **Student Responsibility:** Students are responsible for the completeness and accuracy of their registration and for ensuring their programs are in accordance with degree specifications. Please read the Calendar carefully and if you are in doubt about the regulations pertaining to your program, please consult the School Office.

(2) **Failure to "drop" a course:** Students who do not formally withdraw from a course but who are absent from the final examination without excuse (see §16.5.2 of this Calendar) will be given a mark of zero (0) on the final examination. The final grade in the course will then be determined by combining the appropriately weighted term grade and the assigned zero in the final examination, the mathematical result rounded to the lowest whole number. Students who register in a course but do not attend and do not formally withdraw will receive a grade of 1.

A student who withdraws from a course after the deadline date and who thereby receives a grade of withdraw-failing (WF), will have a grade of 1 calculated into the Grade Point Average.

Also refer to §16.5.2 and §132.6 of this Calendar.

(3) **Course Load Requirement:** Normally, students in the School of Native Studies take a full course load, i.e. 30 units of course weight during the academic session. In exceptional circumstances, and following completion of the first 30 units of course weight, acceleration to the maximum of 36 units of course weight per academic session may be permitted. In the BA in Native Studies program, students are permitted to take less than a full course load.

132.3 Classification and Selection of Courses

(1) **Course Definitions**

a. **Course Designation:** Each course is designated by its computer abbreviation and a number.

b. **Units of Course Weight:** A unit of course weight is an indication of the instructional credit assigned to a course and is designated by the ★ symbol after the course number and name. Units of course weight are used to measure the portion of the degree requirements and are also used in calculating a student's Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA).

c. **Full Course Weight (FCW):** A full course weight (FCW) is a single course or a group of courses whose combined course weight is ★6.

d. **Full Course:** A course with a weighting factor of six or greater, that normally extends over two consecutive University terms.

e. **Half Course:** A course with a weighting factor of less than six that normally extends over one University term.

f. **Normal Course Load:** A normal full academic course load is 30 units of course weight during the winter session.

g. **Options:** The term "option," where it appears in programs, means a School of Native Studies course freely chosen by the student provided the necessary prerequisite requirements have been met. An approved option is an option approved by the School.

h. **Courses extra to the Degree:** Courses taken during the student's tenure in the School which, with the approval of the Director of the School, are not being used for degree credit, are designated as courses extra to the degree.

i. **Research Project:** This course NS 499 may vary in weight according to the length and difficulty of the research project.

(2) **Junior English:** ENGL 101 is required for the Native Studies BA degree program.

(3) **First Year:** Mandatory first year requirements in all programs include a junior English course and a course to clear a deficiency (where applicable). Other first year requirements are listed in §133.1.3 of this Calendar.

(4) **Restricted Enrollment Courses:** The School of Native Studies strives to accommodate all students wishing to enroll in a given course when it is appropriate to the student's program. However, classes in some courses must, for academic reasons, be restricted in size. Such courses will be labelled 'restricted enrollment' courses in the timetable. If such a course is found to be oversubscribed, students whose programs do not require that course may be required to delete it from their registration.

(5) **Junior Courses:** In all programs normally no more than 42 units of course weight at the 100-level may be taken for degree credit. In no case will this limit be extended to permit a student to make up a matriculation deficiency for degree credit, or to include a 'free' option at the junior level.

132.4 Grades and Credits

132.4.1 Matriculation Equivalency Assessment (Native Languages)

Students who have sufficient command of a native language other than English (LOE) may clear an admission deficiency in an LOE by the successful completion of a test indicating they have the equivalent of a 30-level standing, provided the School of Native Studies can provide or facilitate an examiner in the language presented. Inquiries may be made to the School Office. Native language tests (other than Cree) may have to be taken at another University offering that language. See §132.5.1 on Cree Language Exams for further information.

132.4.2 Advanced Placement

Students who do not hold credit in prerequisite courses, but who feel they have sufficient knowledge, may be permitted registration in an upper level course, upon successful completion of a placement test. These tests are normally conducted for language courses (eg. Cree). See also §13.9.4 and §132.5.2 of this calendar.

132.4.3 Transfer of Credit

Refer to §13.9.3, §132.1(5) and §132.1(6) of this Calendar.

132.4.4 Credit by Special Assessment

Note: See also §13.9.5.

A student admitted to a degree program in the School of Native Studies, may receive degree credit in a limited number of courses for knowledge or skill obtained in a non-university context or by private study. "Non-university context" may include work completed at institutions not accredited for degree purposes or may refer to periods of work experience that bear relationship to university courses. The following conditions apply:

(1) **Non-university Context:** A student may apply for credit on this basis, following admission to a degree program.

(2) **Private study:** A student who has been admitted to a degree program and has successfully completed at least one academic year of work (24 or 30 units of course weight) may apply for credit on this basis.

(3) **Number of courses allowed:** Normally, only 18 units of course weight obtained by special assessment may be applied to the degree program. In exceptional circumstances, the Director may permit additional credits by special assessment.

(4) **Limitations:**

a. A student seeking credit in a prerequisite to a course in which advanced placement has been given, must make application for credit by special assessment no later than the last day for course registration in the term in which the advanced course is being taken and must complete the requirements for assessment within the prescribed three months.

b. Except under the special circumstances specified in (3) above, the number of attempts to obtain credit by special assessment is restricted to a maximum of 18 units of course weight.

Note: This limits the number of courses that may be challenged, regardless of results.

(5) **Timing of assessments (deadlines):** The deadline for completion of the examination or assessment is three months from the date of application for credit by special assessment. Unless there are extenuating circumstances, students who fail to complete assessment requirements by the specified deadline will be considered to have cancelled their application and will have to re-apply should they wish to complete that assessment. [see (4) above]

(6) **Courses not accepted:** Graduate courses and Honors courses (i.e., those open only to Honors students and specified as such in the calendar) and normally, "100 level" courses and courses previously audited cannot be attempted by Special Assessment.

(7) **Transfer of "credit by special assessment":** A student who has obtained credits by special assessment (or by similar means) while enrolled in another university, college, faculty, or school, will be given advance credit in such courses only to the extent that the School of Native Studies accepts such courses in its degree programs. [see also (3) above]

(8) **Grades assigned to special assessment courses:** In a course attempted by special assessment, the results will be recorded, either as a grade point or pass/fail according to the practice in the regular course. A student may not appeal the results in a course attempted by special assessment.

(9) **Failure:** A course attempted by special assessment and failed, will be recorded on the transcript of the student concerned and will be computed into his or her academic record.

(10) **Fee:** A fee of $113.00 per three or six units of course weight will be assessed and must be paid before the School undertakes the special assessment. The amount of this fee is subject to change.

132.4.5 Academic Record

Students should be aware that their academic record (i.e., transcript) is a continuing one and that all matters relating to courses, grades, academic standing, probation, etc., will permanently appear on the academic record.

32.5 Cree Language Exams

The School of Native Studies offers the following ree Language exams which may be used to fulfill the latriculation Language other than English requirement MAT LOE) or are relevant to the School of Native tudies and Faculty of Arts Core Program Requirements or a language other than English (Core LOE). Students ishing to take any of these exams should contact the chool of Native Studies to determine in advance the cheduled examination dates and exam arrangements. hese exams must be taken prior to the commencement f classes in September.

32.5.1 Cree Exams

1) Matriculation equivalency assessment is designed for students with a Cree background to fulfill a Language other than English matriculation requirement (MAT LOE). See §132.4.1 for further information.

2) Advanced placement is used for determining placement in NS 101, 102, 151, or 251 for students with a background in Cree other than, or in addition to, high school level 10, 20, 30 courses. For further information, see §132.4.2.

132.5.2 Credit by Special Assessment

Exams are designed for students with a background n Cree. These students can challenge NS 101, 151 or NS 251 for credit. If successful, the student may use hese credits towards fulfilling the Core LOE requirement. Note: NS 101 cannot be used to fulfill both core LOE and he MAT LOE requirements. (Please see Credit Special Assessment, §132.4.4 for further important information, ncluding fee assessment of $100.00.)

132.6 Academic Standing

Beginning Winter Session 1989 academic standing will be assessed on the basis of a cumulative grade-point average (CGPA). Students are expected to maintain a 5.5 minimum CGPA. Students who do not maintain this level of academic performance may be permitted to continue under academic warning or may be required to withdraw.

An initial review of academic performance will be conducted for each student at the end of the winter session, covering the previous calendar year's work; subsequent reviews will be conducted at the end of each session.

The assignment and re-assignment of categories of academic standing is based on a student's performance in a minimum of 12 units of course weight. If, at the time of review, a student has attempted fewer than 12 units of course weight since the last assignment of a category of academic standing, the review will be deferred and the academic standing assigned at the last review will remain in effect until the next review.

(1) **Terms Used in Assessing Academic Standing**

a. **Grade point average (GPA):** Grade point average (GPA) is a sessional measure of academic performance. Rules for the computation of the GPA are listed in §16.4(5).

b. **Cumulative Grade Point Average (CGPA):** The cumulative grade point average (CGPA) is a measure of academic performance obtained by computing a grade-point average for all sessions attended since Spring 1989 using the computational rules in §16.4(5).

For students readmitted on probation after a requirement to withdraw the CGPA will be computed from the time of such readmission.

The GPA is printed on the University transcript. Both averages, the GPA and the CGPA, are printed on the Statement of Results at the end of each session.

c. **Categories of Academic Standing:** There are three categories of academic standing which are determined for each student on the basis of the CGPA

1) **Satisfactory Standing:** a CGPA of 5.5 and above.

2) **Marginal Standing:** a CGPA between 4.5 and 5.4 inclusive.

3) **Unsatisfactory Standing:** a CGPA of 4.4 and below.

(2) **Application of Academic Standings**

a. **Satisfactory Standing:** (CGPA 5.5 and above): Students who maintain a satisfactory standing will be permitted to continue their studies in the School of Native Studies subject to meeting the specific requirements of their degree program and the general requirements of the University of Alberta.

b. **Marginal Standing:** (CGPA 4.5 to 5.4 inclusive): Students receiving the first assessment of marginal standing, are permitted to continue, under academic warning, until the next assignment of academic standing in order to raise the CGPA to 5.5 or higher; providing their specific degree requirements and the general requirements of the University of Alberta are also met. Such students who succeed in raising the CGPA to a least 5.5 may continue their studies with satisfactory standing; but if the CGPA drops below 5.5 in a subsequent review the student is required to withdraw for at least one calendar year.

Students under academic warning who fail to raise the CGPA to at least 5.5 by the next assignment of academic standing will, with one exception, be required to withdraw for at least one calendar year. The exception to the requirement to withdraw is as follows: Students who do not raise the CGPA to at least 5.5 by the next assignment of academic standing but who during the same period, achieve an average of at least 6.0 on all courses attempted will be permitted to continue under academic warning. Continuation over subsequent review periods is permitted, until the CGPA is raised to at least 5.5, as long as the minimum 6.0 average is maintained in each subsequent review period.

c. **Unsatisfactory Standing:** (CGPA 4.4 and below): Students receiving an unsatisfactory standing will be required to withdraw from the School of Native Studies for at least one calendar year.

(3) **Requirement to Withdraw:** In addition to the above, if the average obtained in any review period, on a minimum of two full courses or the equivalent, falls below 4.5, the student will be required to withdraw for at least one calendar year even if the CGPA is 5.5 or higher.

Courses taken during the period of review which resulted in the requirement to withdraw will be retained for credit only if a grade of 5 or higher was achieved.

(4) **Readmission After a Requirement to Withdraw:** A student who was required to withdraw from the School of Native Studies may apply for readmission to the School of Native Studies as a probationary student. Such applications are normally only considered for terms beginning at least one calendar year after the requirement to withdraw. If requested by the School of Native Studies, such applications must be accompanied by a recommendation from Student Counselling Services. Deadlines for submitting applications are listed in §14.

(5) **Probation:** A student admitted, or readmitted, on academic probation remains on probation until the School of Native Studies has ruled that probation has been cleared or failed. Final assessment of a probationary student is made at the end of the term in which the student completes 30 units of course weight. To clear probation a student must have (a) attempted a minimum of 30 units of course weight; (b) achieved in each course a minimum grade of 4; and (c) obtained a minimum 5.5 CGPA on all courses attempted while on probation. A student who clears probation must maintain a satisfactory standing on all subsequent reviews or be required to withdraw.

A student who fails a course will have failed probation even if fewer than 30 units of course weight have been attempted. The final grade on a failed course may be raised through a reexamination if the student is eligible to write a reexamination; however, only one reexamination is permitted during the period of probation.

A student will also have failed probation if the CGPA on a minimum of 30 units of course weight is less than 5.5.

A student who fails probation, or who does not maintain a satisfactory standing after having cleared probation, is required to withdraw from the School of Native Studies and, normally, will not be readmitted.

132.7 Reexamination

(1) An undergraduate student in the School of Native Studies may be permitted a reexamination provided that:

a. The student's GPA for the academic session is 5.5 or greater.

b. The weight of the final examination is 40% or higher.

c. The Director of the School of Native Studies, in consultation with the instructor, indicates that the student will have a high probability of success in taking a reexamination.

(2) If a reexamination is approved the following policies apply:

a. The reexamination will have the same percentage value as the original final examination.

b. The reexamination mark replaces the original final examination mark in determining the final grade in the course.

c. Students are permitted a reexamination in one failed course (three or six units of course weight) per Winter Session.

d. Students on probation are permitted one reexamination only (refer to §42.6(5)).

(3) Students requesting a reexamination must follow the procedures detailed in §16.5.4 of this Calendar.

132.8 Academic Performance

Academic performance for graduation: Students must present credit (with a minimum grade of 4 or equivalent) in a minimum of 120 units of course weight, which satisfy program requirements, with a graduation average of at least 5.5. The graduation average is the quotient of (a) the total number of grade points earned by the student in courses credited to the degree, and (b) the total weight of those courses. In the case that a student has attempted, as part of the program, courses at an institution for which the grades are not precisely equivalent to those of the University of Alberta, the degree will be awarded at the discretion of the School of Native Studies.

132.9 Graduation

(1) **Application:** Students wishing to receive a School of Native Studies degree at an upcoming Convocation must obtain an Application for Degree form from the School Office and submit it in accordance with the deadlines specified in this Calendar.

(2) **Degree Requirements:** These requirements are given in §133 of this Calendar.

132.10 Appeals

Students who wish to appeal a ruling affecting their academic standing should direct their appeal in the first instance to the instructor. Recourse is then available to the School of Native Studies Director and the General Faculties Council Academic Appeals Committee, in that order. Further information on such appeals is available in §16.8 of this Calendar.

Appeals regarding students' standing in a particular course should first be directed to the instructor concerned. Frequently the issue can be resolved at this level. If not, the appeal may then be addressed to the Director of the School of Native Studies. See §16.5.3(2) of this Calendar for reappraisal deadlines.

Grade appeal and academic appeal procedures and regulations are available from the School of Native Studies.

132.11 Academic Offences

A breach of the Code of Student Behavior, for example plagiarism or cheating, may result in penalties being imposed. For further information refer to §19 of this Calendar.

133 Program of Study

133.1 The Degree of Bachelor of Arts in Native Studies

133.1.1 Program of Study Rationale

Two distinct yet related themes underlie the School's Program of Studies. The first theme is respect for indigenous knowledge systems, including languages, cultures, and philosophies. The second theme is the University's emphasis on research excellence. Together the two themes focus on the School's development of a research capability to address issues affecting Indian, Inuit, and Metis people today. In this context, the students' program of study will centre on the development of knowledge, and analytical and research skills suited to address problems of current Native interest.

The program of study objective is to provide students an inter-disciplinary academic experience that will be integrative. Land, language, and self-government are among the most vital issues that have been identified by Native communities in the Canadian West and North. These issues and the stress on research of University and the Native communities have shaped the development of courses. At the same time, Native communities are very dynamic, and the School intends to respond to these changes as well as developments in the broader Canadian Society. With academic excellence as the standard, the School's courses are interrelated and may be grouped in the following key areas of study:

(1) Language and Culture,
(2) Land and Resources,
(3) Self Government,
(4) Community-Based Research and Applied Skills.

133.1.2 The BA Degree in Native Studies

(1) **Duration:** This BA degree is a program with 120 units of course weight. Students must secure credit in a minimum of 36 units of course weight in Native Studies courses. Students will normally complete 30 units of course weight in each academic session and will normally complete the program in four academic calendar years.

(2) **Course load requirements:** Refer to §132.2(3) of this Calendar.

(3) **Transfer of credit:** Refer to §132.1(6) of this Calendar.

Note: The word "course" used in the following context refers to a full-session course of six units of course weight or equivalent (two single-term courses — each of three units of course weight).

133.1.3 Curriculum

(1) **First Year:** Each year consists of 30 units of course weight credited to the program. During the first year students must complete ENGL 101 plus 24 additional units of course weight, normally from the core program. (See Calendar §132.1.2 for first year Native language requirements.) Normally, students must take NS 101 or NS 201 in their first year of study.

Students in the BA degree in Native Studies should seek counselling and program approval from the School of Native Studies.

(2) **Core Native Studies Requirements:** The nine core requirements to be completed in the first two years are:

ENGL 101 - 6 units of course weight

Natural Science & Formal Studies** - 12 units of course weight

Fine Arts* - 6 units of course weight

Humanities* (Group A, B) - 12 units of course weight

Social Sciences* (Group A, B) - 12 units of course weight

*For students without a recognized course in a Native Language see Calendar §132.1.2.

**Native Studies courses can count up to three units of course weight in the Fine Arts, Humanities, and Social Sciences categories.

***An approved listing of Science courses from the Faculties of Agriculture and Forestry and Home Economics are acceptable to meet this requirement (see List #1 in §133.1.6). Natural Science and Formal Studies courses approved by the Faculty of Arts as meeting their requirements are also acceptable.

**** a. Humanities, Groups A and B - refer to §43.1.1(3)

b. Social Sciences, Group A - refer to §43.1.1(3)

c. Social Sciences, Group B - refer to §43.1.1(3)

d. Fine Arts - refer to §43.1.1(3)

e. Natural Sciences and Formal Studies - refer to §43.1.1(3)

(3) **Compulsory Native Studies Requirements:** The compulsory Native Studies requirements are:

a. A minimum of 30 units of course weight in Native Studies (NS) courses (at the 150-level or above). Students may use six units of course weight from other faculties (see List #2 in §133.17) for this requirement. Students must take six units of course weight in a Native Studies survey course, normally NS 210 and NS 211; three units of course weight in Community Research Methods, normally, NS 390; and at least 12 units of course weight in Native Studies course equivalents at the 400-level, normally including NS 490 (Community-Based Research).

b. Six units of course weight in a Native Language course (over and above the 30 units of course weight in Native Studies courses, and over and above the matriculation language requirement).

c. At least six units of course weight at the 400 level (including prerequisites) is required for a subject of minor concentration (this is comparable to the Faculty of Arts requirements). A subject of minor concentration shall be taken in any faculty which offers a suitable range of courses open to students in the School of Native Studies. Students are presently able to take their second area of concentration through departments in the Faculty of Arts, through the Faculty of Agriculture and Forestry (Resource Management), and the Faculty of Home Economics (Historic/Cross-Cultural and Aesthetic Aspects of Clothing and Textiles; Apparel Construction and Merchandising; Socio-Cultural/Socio-Psychological Aspects of Clothing and Textiles; Consumer Concerns; Family Process and Development; Foods; Nutrition; or Foods and Nutrition). Students may also opt to take a series of recommended options in the Faculty of Physical Education and Recreation (in lieu of a second area of concentration). It is expected that in the future students will also be able to take the second areas of concentration through other faculties.

Note A: Language courses which do not offer as their goal the acquisition of a language other than English, e.g., those dealing with literature in translation, will not fulfill the LOE requirement.

Note B: Junior Courses: Normally no more than 42 units of course weight in junior (100-level) courses are permitted for credit to the program. Upon written petition to the School an additional six units of course weight at the junior level will be permitted if it is a prerequisite for required courses or is stipulated as being a required course for the BA in Native Studies or second subject of concentration.

Students in the Fourth Year of the program will not normally be permitted to take courses for credit at the 100-level.

Note C: Options may be taken from other Faculties of the University of Alberta subject to their regulations and quotas.

133.1.4 List #1

In addition to the list of Natural Sciences and Formal Studies courses in §43.1.1(III), the following courses may also be used by BA (Native Studies) students (who have the necessary prerequisites) in order to fulfill the science requirements of the program.

Department of Animal Science
AN SC 210 Equine Physiology and Nutrition
AN SC 311 Applied Physiology of Domestic Animals
AN SC 340 Farm Animal Health and Disease Prevention
AN SC 350 Wildlife Productivity and Management
AN SC 372 Animal Agriculture

Department of Foods & Nutrition (Faculty of Home Economics)
FD NU 120/121 Current Topics in Food
FD NU 320 Basic Foods I
FD NU 321 Basic Foods II

Department of Forestry
FOR 100 Introduction to Forestry
FOR 110 Wildland Resources Measurements (STAT 141 concurrent requirement)
FOR 120 Dendrology (Study of Trees)
FOR 340 Forest Fire Management
FOR 365 Forest Wildlife

Department of Plant Science
PL SC 115 Introductory Plant Science
PL SC 350 Principles of Horticulture
PL SC 354 Forage Crops
PL SC 355 Cereals and Oilseed Crops
PL SC 356 Range Management
PL SC 406 Range Plants of Western Canada

Department of Soil Science
SOILS 310 Introductory Soil Science
SOILS 316 Soils and People
SOILS 330 The Soil Ecosystem

Department of Agricultural Engineering
AG EN 300 Introduction to Farm Mechanization Systems
AG EN 305 Farm Power and Machinery
AG EN 308 Agricultural Water Management
AG EN 310 Agricultural Buildings

Other science courses may be added at a future date.

133.1.5 List #2

Approved list of courses* which can be taken for Native Studies Credit from other Departments.

History
*HIST 368/369 The Native Aspect of Canada's History I/II
*HIST 479 Topics in Canadian Native History

Anthropology
*ANTHR 227 Indigenous and Cultural Minorities in the Modern World
*ANTHR 246 Peoples and Cultures of the Circumpolar Region
*ANTHR 250 Indians of North America
*ANTHR 255 Canadian Native Peoples
*ANTHR 446 Circumpolar Ethnology
*ANTHR 455 Aboriginal Rights
*ANTHR 470 American Indian Linguistics

Political Science
*POL S 432 Politics of the Canadian North

Religious Studies
*RELIG 280 Religious Beliefs of Native Peoples

Sociology
*SOC 368 Canadian Ethnic and Minority Relations

Rural Sociology
*INT D 356 Sociology of Rural Life

Educational Foundations
*EDFDN 432 The Education of Native Peoples in Canada: A Historical Study
*EDFDN 474 Contemporary Issues in the Education of Native Peoples: A Social Science Perspective

Note A: *These courses have a strong Native (Aboriginal) Peoples component.

Note B: In the future, courses may be added to this list depending upon the course content criteria referred to in Note A above.

133.1.6 The BA (Native Studies) After Another Undergraduate Degree

Applicants having a first undergraduate degree may be admitted to the BA (Native Studies) degree program. All requirements of the BA (Native Studies) degree, as in §133.1.2 of this Calendar, are to be met, but the total number of required courses for the After Degree may be reduced by a maximum of 60 units of course weight taken in the first degree. These courses from the first degree may only be from the Faculties of Arts and Science, or from any other Faculty through which students in the Native Studies degree program may take their second area of concentration (e.g. Agriculture and Forestry, Home Economics). Moreover, these courses from the first degree must be appropriate to satisfy the requirements of the BA (Native Studies) degree. The After Degree program is taken under the direction of the School of Native Studies.

34 Details of Courses

34.1 General Information

The appearance of a course description in the owing list does not constitute any guarantee that the urse will actually be offered in the forthcoming session. ormation as to which courses will be offered, the mes of the instructors, and all further details must be ught from the School of Native Studies, 11023 - 90 enue, 492-2991.

ysical Requirements for University Courses

The University has a commitment to the education all academically qualified students and special serv- s are regularly provided on campus to assist disabled idents.

Nevertheless, some courses make certain unavoid- le demands on students, with respect to the posses- n of a certain level of physical skill or ability, if the ademic objectives of the course are to be realized. In ses of doubt, students are advised to contact the partment concerned and the Disabled Student Serv- s Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for -campus courses, instructors may be obliged to refuse gistration in such courses.

34.2 Native Studies Courses

e following table lists renumbered courses effective 91-92:

d	New	Old	New
S 200	NS 100	NS 311	NS 211
S 201	NS 151	NS 350	NS 345
S 301	NS 251	NS 450	NS 445
S 310	NS 210		

S 100 Introduction to Native Studies
3 (3-0-0). An introduction to the history, current condi- ns, and prospects of the Native peoples of North nerica, with special attention to the Cree, the Dene, e Inuit and the Metis of the Canadian West and North. ie course will deal with a wide range of topics, cluding literature and the arts, social and political ganization, and economic development.

S 101 Introductory Cree
6 (4-0-1). A general introduction to Plains Cree (Y alect) grammar and vocabulary, with practice in speak- g and work in the language laboratory. No prior owledge of Cree is assumed. Not open to students th matriculation standing in Cree. Note: Students nnot receive credit for NS 101 and NS 102. (This urse can be used to fulfill the Language Other than nglish requirement for the BA (AR 20) Degree. See §3.1.1(II)(3)).

S 102 Introduction to the Structure of the Cree anguage for Cree Speakers
3 (second term, 4-0-0). A course designed specifically r fluent speakers of Cree who require an introduction the Pentland othography writing system and formal aining and practise with Cree grammatical structure. he focus is on literacy in the Plains Cree dialect. Note: tudents cannot receive credit for NS 101 and NS 102.

S 103 Introductory Slavey
6 (4-0-1). A general introduction to Slavey grammar nd vocabulary, with practice in speaking and work in ie language laboratory. No prior knowledge of Slavey assumed. Not open to students with matriculation anding in Slavey.

S 104 Introduction to the Inuit Language nuvialuktun and Inuinnaqtun)
6 (4-0-1). A general introduction to the grammar and ocabulary of the Inuit language (Western and Central rctic), with practice in speaking and work in the lan- uage laboratory. No prior knowledge of Inuit is assumed. ot open to students with matriculation standing in Inuit.

IS 151 Intermediate Cree
6 (3-0-1). Introduction to more complex grammatical tructures; translation to and from Cree; reading of elected texts; oral practice, including conversation and ork in the language laboratory. Prerequisite: NS 101 or onsent of the School. (This course can be used to fulfill he Language Other than English requirement of the BA AR 20) Degree. See §43.1.1(II)(3)).

IS 210 Native Issues and Insights I
3 (first term, 3-0-0). An overview of the background ocial/cultural/political issues in Native Studies that con- nue to have a definite impact on the contemporary situation. The focus of the course will be on Aboriginal peoples of the Canadian West and North. Issues of Native rights, aspirations, and conditions regarding land, traditional vocations, and systems of governance will be examined in more depth. Not available to students who have already taken NS 300. (NS 210 was formerly part of NS 300.)

NS 211 Native Issues and Insights II
★3 (second term, 3-0-0). An overview and survey of the major issues facing Canadian Aboriginal peoples and governments today, within a broader context of comparable issues for indigenous peoples and governments elsewhere. This will include Native rights, aspirations and conditions in relation to the following issues: language, land, self-government, maintaining traditional vocations, economic development, education and health. Insights into the hopes and concerns of native communities and individuals, including the dynamics of development and change. Sessions with native leaders will also form part of this course. Prerequisite: NS 310 or HIST 368/369 or consent of the School of Native Studies. Not available to students who have already taken NS 300. (NS 311 was formerly part of NS 300.)

NS 251 Advanced Cree
★6 (3-0-1). An intensive course designed to enable students to acquire considerable facility both in oral communication and in writing, employing both Roman and syllabic orthography. Prerequisite: NS 201 or consent of the School.

NS 320 Aboriginal Self-Government
★3 (either term, 3-0-0). The description, analysis and evaluation of various aboriginal self-government models, proposals and practices, and the principles underlying them. The relative merits of constitutional, legislative and administrative options for realizing aboriginal self-government will be compared. Among regional developments in self-government to be discussed are those in Alberta and NWT. Prerequisite: NS 311 or NS 300, or consent of the School.

NS 330 Native Economic Development
★3 (either term, 3-0-0). This course will review underlying factors which affect the economies of Native communities and examine different approaches to Native Economic development, including community, corporate and entrepreneurial business approaches. The Native perspective to Native Economic Development will be a principal theme. The objective of the course will be to assess approaches to the identification, planning and implementation of economic development strategies for Native communities. Prerequisite: NS 311 or NS 300 or consent of the School.

NS 340 Aboriginal Legal Issues
★3 (either term, 3-0-0). A general and critical overview of the legal issues affecting Native people, with particular reference to Alberta and the NWT. Special attention will be given to the Constitutional Act of Canada, selected federal and provincial legislation, Treaties, and major court cases to introduce current application of native law. Prerequisite: NS 311 or NS 300 or consent of the School.

NS 345 Management Issues in Native Communities
★3 (either term, 3-0-0). The course introduces the major management issues commonly faced by contemporary Native community, public administration and business organizations as a result of their unique cultural, social, economic, demographic and political environment. Students will acquire an orientation to the management process and to modern management theory and practices. In addition, opportunities will be made to develop and practice the managerial skills involved in diagnosis, analysis and resolution of management issues frequently encountered in Native organizations. Prerequisite: NS 311 or consent of the School.

NS 360 Contemporary Native Art
★3 (either term, 3-0-0). A study of comtemporary North American Native artists with emphasis on the philosophical and culturai statements made through their artistic expression. Special attention will be placed on living mainstream Canadian Native artists, as well as on Canadian native artists that are part of the Northwest Coast, Plains, Woodland, Algonquin, and Pan-Indian schools of art. Prerequisite: NS 311 or consent of the School.

NS 370 The Metis: The Emergence of a People
★3 (either term, 3-0-0). An examination of the factors responsible for the emergence of Metis communities in different areas at different times, with the emphasis on Canada. The development of Metis people together with lifestyles that serve to distinguish them from others will receive much attention. Where applicable, comparisons with similar experiences elsewhere in the world will be made. Prerequisite: NS 311 or NS 300 or consent of the School.

NS 375 Native Health Issues
★3 (either term, 3-0-0). This course is designed to introduce students to selected contemporary health care issues in Alberta Metis and Indian communities. A description of the existing health status of these populations will facilitate exploration of socio-economic issues of disease prevention, illness treatment and health promotion. Concepts of health, illness and disease from several points of view will provide a foundation for discussion of issues associated with Native control of health care planning delivery. Prerequisite: NS 311.

NS 380 Selected Topics in Native Studies
★3 (either term, 3-0-0).

NS 390 Community Research Methods
★3 (first term, 3-0-0). An introduction to the basic concepts, principles and issues in the area of community research. The objective of the course is to develop the student's ability to both apply and critique a range of research methods used to describe the different facets of a community. Prerequisite: NS 311.

NS 403 Selected Topics in Native Studies
★3 (either term, 3-0-0).

NS 404 Selected Topics in Native Studies
★3 (either term, 3-0-0).

NS 408 Conference Course in Native Studies
★3 (either term, 3-0-0).

NS 409 Conference Course in Native Studies
★3 (either term, 3-0-0).

NS 420 Native Communication and Negotiation Strategies
★3 (either term, 3-0-0). Contemporary Native communities and organizations in Canada have developed a variety of communication and negotiation strategies to achieve results. Native leaders have developed these strategies to deal with governments and developers from the dominant society. One strategic approach has involved public education and media communications to impact public opinion. In their direct dealings with governments and industries Native representatives have often employed a combination of negotiation, litigation and lobbying. This course will focus on strategies used to acquire land, economic and self-government agreements in Alberta, NWT and the Yukon, although strategies used elsewhere in Canada will also be examined. A portion of this course will also review communication strategies within Native communities and organizations. Prerequisite: NS 311 and NS 320 (or NS 340).

NS 430 Native Land Use Research and Planning
★3 (either term, 3-0-0). This course will approach land use research and planning as it applies specifically to traditional Native land use. Two perspectives will be considered. Native land use research will be examined to demonstrate land use and occupancy to support Native land claims. Planning the use of Native lands and resources by incorporating traditional and contemporary usage and management methods into land use plans will be the second thrust. Included in the course are: the land claims process; control of land and management of resources; land use planning in the context of Native self-government; and the roles of resource development and the traditional sector of Native economies. Issues such as Native participation in the co-management of resources affecting traditional Native lands and economies, the cultural applications of land use research and indigenous values, and practices of land use will also be covered. Prerequisite: NS 311 and NS 330 (or NS 320).

NS 445 Native Community Development Processes
★3 (either term, 3-0-0). In a seminar, students will identify, analyze and integrate community development philosophy, principles and practice. The relevance of traditional community development models to Native communities will be critically examined in light of the recent experiences of Native communities themselves. New community development models, processes, and experiences will be studied. This course emphasizes experiential learning and places values on the sharing of individual experiences. Students will develop competence in working with community processes through involvement in group activites. Native community practitioners and elders will make presentations on these new models. Prerequisite: NS 311 and NS 350 (or NS 330).

NS 470 Metis Politics
★3 (either term, 3-0-0). This seminar concentrates on recent events, processes, and issues. It examines the political attitudes, opinions, and activities of Metis peoples, as well as organizations and their leaders. Similarities between the politics of Metis and Indian collectivities are explored. Considerable attention is given to the strategy and tactics employed by Metis in dealing with the provincial and federal governments. Prerequisite: NS 370 or History 369 or consent of the School. POL S 200 or 320 or 321 strongly recommended.

NS 480 Metis/Indian/Inuit Issues Seminar
★3 (either term, 3-0-0). A seminar in which an examination is made of current issues facing indigenous peoples. Topics are selected from contemporary developments in major areas of interest including: educational and vocational implications of land claims and self government settlements; Metis, Indian and Inuit perspectives on the

environment, development, and cultural arts. Emphasis is given to the comparative analysis of such issues at the regional, national and interational levels. Prerequisite: Consent of the Director of the School of Native Studies.

NS 490 Community-Based Research
★3 (second term, 0-3s-0). A seminar exploring the issues in the area of community-based research. The course will be organized primarily around the examination of case studies from this field. In addition to methodological concerns, the course will emphasize the practical, cultural and political aspects of conducting community-based research in conjunction with Native groups. Prerequisite: NS 390.

NS 499 Research Project
★3 (0-0-3). The research project is designed to provide students with a variety of options for carrying out their own research. The specific route taken will depend upon the resources of the School, opportunities available in the community, and the skills of the student. While the program is intended to be flexible, the main route around which students may design their projects will be research conducted in conjunction with a local native organization. Prerequisite: Consent of the School of Native Studies. Normally consent will not be given without credit in NS 390.

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Nursing

Faculty of Nursing

141 Introductory

141.1 Members of the Faculty

Emeriti
MA Beswetherick, MSc(A)
KA Dier, MSc(A)
B Harrington, MN
J MacPhail, PhD, FAAN
RE McClure, MPH, LLD
ME(Steed) Henderson, MA

141.1.1 Staff

Professor and Dean
MJ Wood, DrPH

Professors and Associate Deans
PJ Brink, PhD
RA Day, PhD
P Giovannetti, ScD

Professors
M Allen, PhD
T Davis, PhD
PA Field, PhD
ID Forrest, PhD
JC Kerr, PhD
JF Kikuchi, PhD
JA Lander, PhD
JM Morse, PhD (Nursing), PhD (Anthroplogy)
SM Stinson, EdD, LLD

Associate Professors
AM Anderson, MScN
V Bergum, PhD
MR Elliott, PhD
JS Ford, PhD
MJ Harrison, PhD
P Hayes, MHSA
JM Hibberd, PhD
J Innes, MScN
LA Jensen, PhD
A Neufeld, PhD
AE Molzahn, PhD
AM Pagliaro, MSN
CL Park, MEd
SL Richardson, PhD
DL Skillen, MHSc
PEB Valentine, PhD
D Wertenberger, PhD
O Yonge, PhD

Assistant Professors
M Anderson, MN
JA Boman, MA(Comm Dev)
D Buchanan, MSN
B Cameron, MSc
IE Campbell, MN
EJ Drummond, MSc
W Hurtig, MEd
BAC O'Brien, DNS
LD Ogilvie, MScN
MJ Relyea, MPH
LI Reutter, MSN
V Strang, MN
MA Wales, MSN
D Wilson, MSN

Sessional Appointees

Full-Time
SR Bookhalter, BScN
H Brookwell-Reuber, MScN
DC Davidson, MSc (Fam St)
D Hoopfer, MEd
M Lock, MN
P Marck, BScN
W Neander, MN
S Russell, BScN
CF Wiebe, BScN

Part-time
B Astle, MN
K Bakker, BScN
G Bauer, MEd
B Bond, BScN
H Briggs, BScN
S Chandler, BScN
D Eiserman, MVTE
J Hodder, BScN
S Hopkins-Scott, BScN
P Hoskin, MEd
J James, PhD
G Jensen, BScN
J Jette, BScN
P Kowalski, BScN
S Krywchuk, BScN
K Kushner, MN
B Magee, MN
S Mawer, BScN
W McDonald, BScN
D McIntosh, BScN
J Mekechuk, BScN
W Mertick, BScN
A Mitchell, BScN
D Moonie, MA (Comm Dev)
K Moore, MN
S Mryglod, BScN
S Mulkins, BScN
C Norris, BScN
J Parker-Sparrow, BScN
P Paul, MSc(A)N
B Robson, PhD
C Ross, MN
E Wagner, BScN
MT Walker, BScN
E White-MacDonald, MN
E Zdrodowski, BScN
T Zujewskyj, MScN

Administrative Professional Officers
IA Brown, BA
ML Tod, MN

141.1.2 Additional Members of the Faculty Council

President and Vice-Chancellor
P Davenport, PhD

Dean of the Faculty of Medicine
DR Wilson, MD, MSc, FRCP(C), FACP

Professors
G Fitzsimmons, PhD (Educational Psychology)
JA Golec, PhD (Sociology)
AR Dodds, PhD (Science)
JB Dossetor, FRCP(C), PhD, FACP (Medicine)

President, University Hospital
DP Schurman, MHSA

Vice-President (Nursing) - University Hospital
H Andrews, PhD

Representative, Alberta Association of Registered Nurses

Vice-President, Patient Care Services, Royal Alexandra Hospital
J Baird, MEd

Registrar of the University
BJ Silzer, MEd

Library Representative
L Sutherland

141.1.3 University of Alberta Hospitals School of Nursing

Director
D Wertenberger, PhD

Faculty
K Cupid, BScN
K Daly, BScN
J DeJager-Cayford, BN
S Devlin, BScN
N Diduch, BN
M Doucette, BScN
C Drutz, BScN
J Dutton, BScN
M Ellis, BScN
J Farrar, MEd
J Florence, BScN
L Forest, BScN
B Gibson, MEd
J Greenhalgh, MN, MEd
T Gushuliak, MN
J Hafso, BScN
Y Hagel, BScN
C Harvey, BScN
I Heike, BScN
B Holoboff, BScN
E Hulbert, BScN
S Johannsson, BScN
L Kashuba, BScN
C Kenyon, BScN
T Klauwers, BScN
B Leddy, BScN
C Little, BScN
A Loerke, BScN
E Lysak, BScN
D McFayden, MEd
B McLean, BScN
S Miller-Field, BScN
M Newman, BScN
B Petzold, BScN
D Pietrusik, BScN
S Roy, BScN
J Sadownyk, MEd
Y Scarlett, MEd
D Siegl, BScN
J Squire, BScN
J Swann-Lussier, BScN
W Tanaka-Collins, BScN
A van der Klaauw, BScN
D Vanderwell, BScN
B Williams, BScN
P Wilson, MEd
B Woodfine, BN
H Woodward, MEd
M Woolley, BScN
S Young, BScN

Coordinator Operations
C Harris, CMA

Counsellor
G Wyatt, BSc (HEc)

141.1.4 Associate Faculty

D Armann, BEd
J Baird, MEd
G Bauer, MEd,
B Brady-Fryer, MN
D Brown, MN,
S Clark, MHSA
D Cochrane, MN
AC Conrad, MEd
JJ Cote, MN
L Davis, MEd
L Dawson. MEd
I Diduch, BScN
W Duggleby, BScN
J Edwards, MSN
C Estabrooks, MN
M Evans, MN
I Gataint, MEd
D Gojmerac, MN
L Grief, BScN
A Groeneveld, MN
L Guest, BScN
D Gusnowski, BScN
N Inions, LLM
S Janes-Kelly, MSN
J Johnson, RN
B Kay, MS
C Knight, MN
S Laskiwski, MN
S Levine, PhD
B Magee, MN
K McClelland, BN
M McLennan, MEd
D Meilicke, MHSA
J Mills, BScN
K Mills, MHSA
J Murray, BScN
J Newman, MHSA
K Oberle, MN
G Olinyk, MEd
R Pahl, MBA

D Prokopsczak, MEd
H Ready, MHSA
M Sandilands, BScN
J Sasaki, BScN
R Seaberg, BScN
MP Skene, MEd
DL Smith, MEd
DW Smith, BN
H Smyk, PhD
D Spillett, BScN
V Splane, MPH, LLD
D Walters, MBA
A Weinlick, BScN
C Wolfe, MEd
J Wry, MEd
JS Wulff, MHSA
L Youell, MHSA
J Zimmerman, MEd

141.2 General Information

141.2.1 Historical Note

The first Nursing courses at the University of Alberta were taught in Public Health Nursing. Made possible through financial support from the Canadian Red Cross Society, they were included in the 1921 lecture program series of the University. The University of Alberta established the School of Nursing under the Faculty of Medicine. The School of Nursing began with two programs, a three-year diploma program and a five-year Bachelor of Science in Nursing program. The School admitted the first diploma class in October, 1923 and students were admitted to the degree program in 1924. The first four baccalaureate students graduated in 1928. The five-year course leading to both a BScN and registration as a nurse consisted of two years of university courses and three years of clinical courses. The latter, "sandwiched" between university courses, were completed at the University of Alberta Hospital (UAH) School of Nursing where university students were integrated with the diploma class. In the final year of the degree program, nurses were selecting a special educational focus of Nursing Education, Nursing Administration, or Public Health Nursing.

Although many changes in the five-year degree program took place over the years, the clinical portion continued to be offered by the UAH School of Nursing until 1966. Following the passage of the Universities Act in that year, the University of Alberta School of Nursing became an autonomous academic unit within the administrative framework of the University. The four-year integrated Baccalaureate in Nursing Program was implemented at this time. The School of Nursing received Faculty status in 1976. The University of Alberta Hospitals continued to maintain a diploma School of Nursing apart from the program of the University.

The Faculty of Nursing has always responded to the needs of registered nurses with a variety of programs tailored to current practice and to the social conditions of the time. One-year certificate programs for registered nurses, leading to a diploma in Public Health Nursing and a diploma in Nursing Teaching and Supervision, were continued until 1970 when they were replaced by a revised degree program for registered nurses. From 1943 to 1984, a nine-month program leading to a certificate in Advanced Practical Obstetrics was offered to qualified nurses to enable them to give expanded care in rural settings and northern nursing stations. The certificate was phased out and was replaced by a certificate in Nurse-Midwifery which is offered in conjunction with the Master of Nursing program.

A twenty-week Nurse Practitioner Program, funded by the Federal Government, was offered in conjunction with the Faculty of Medicine from 1971 to 1984. In collaboration with the University of Alberta Hospitals, a joint certificate program in Neonatal Nursing has been offered since 1982 and one in Nephrology Nursing was started in 1986. A joint certificate program in Emergency/Intensive Care Nursing began at the Misericordia Hospital in 1984 and was expanded one year later to include the University of Alberta Hospitals.

Since 1970, the University of Alberta Faculty of Nursing has sponsored a Continuing Nursing Education Program, which provides non-credit courses, sponsors Nursing conferences, and is jointly administered by the Faculties of Nursing and Extension.

Following the lobby by the Alberta Association of Registered Nurses (AARN) for increased degree opportunities for registered nurses, the Government provided funding in 1979 for expansion of the BScN Program for registered nurses. Enrollment in the Post-RN Program doubled from 72 to 144, and an off-campus program was established. Subsequently, in 1982, the four-year Basic BScN Program was expanded to 100 students. The first graduate program in Nursing in Alberta was introduced at the University in 1975. The Master of Nursing program offers a clinical focus in acute care nursing, long-term care, and community health nursing associated with strong research preparation.

As a step toward meeting its goal of providing increased access to Baccalaureate Nursing education in Alberta, the Faculty has collaborated with hospital and college diploma programs in the Edmonton area. Each of these institutions will teach the first two years of a collaboratively developed Basic Baccalaureate program which will then be transferrable to the University of Alberta at third year. An additional change is the merger of the University of Alberta Hospitals School of Nursing as a joint department of the Faculty of Nursing and the University of Alberta Hospitals. With this merger, there will be one program jointly sponsored by the two institutions, with all students enrolled in the University. After their second year at the University, students have the option of going into a 24-week diploma completion program through the hospital School of Nursing and resulting in RN status or applying for entry to third year in the University. A quota of 235 students at third year has been approved for the Faculty of Nursing and is open for competition to second-year students from all participating nursing programs.

An additional project began in September 1990 as a five-year pilot. It is an off-campus BScN program which has been developed in collaboration with Red Deer College and which will allow students to complete a four-year BScN in Red Deer. The first two years of the program are offered by Red Deer College, the third and fourth years by the University of Alberta Faculty of Nursing.

141.2.2 Goals and Mission Statement

The goal and mission statement of the Faculty of Nursing is to be a centre of excellence in Nursing for the advancement, dissemination, and application of nursing knowledge. This is achieved through the following:

(1) **Teaching:** Our goal for teaching is to develop competence in nursing practice, to instill a quest for knowledge, and to create a sense of professionalism.

(2) **Research:** Our goal for research is to foster the advancement of nursing knowledge in both the theory and practice of nursing.

(3) **Public Service:** Our goal for public service is to extend the Faculty's expertise to the community locally, nationally, and internationally, in order to foster health promotion, health maintenance and the advancement of the nursing profession.

142 Faculty Regulations

142.1 Admission

English Language Proficiency

English is the primary language of instruction in all faculties except Faculté Saint-Jean, where French is the primary language. Therefore, all applicants to undergraduate faculties other than Faculté Saint-Jean must possess an adequate knowledge of written and spoken English as a prerequisite to admission. For example, non-matriculated applicants and unclassified program students must comply with the requirement along with other applicants.

Applicants to Faculté Saint-Jean need not demonstrate proficiency in English prior to admission being granted. However, they must demonstrate proficiency in English before they may be granted a degree from this institution.

Regardless of country of origin or citizenship status, all applicants except those applying to Faculté Saint-Jean, will be required to demonstrate proficiency in the English language prior to admission. This demonstration may take any one of several forms:

(1) Six full years of education in English in Canada or the equivalent in another country where English is the principal language. Such education must include the Alberta Grade 12, or equivalent level, and can be in a combination of secondary and post-secondary training.

(2) Successful completion of the equivalent of 6 years of full-time instruction in a school/institution in Alberta in which the major language of instruction is other than English, but where the level of English proficiency required for graduation is equivalent to that in English language schools/institutions in Canada.

(3) A grade of 80% or better on the diploma examination portion (only) of the Alberta English 30 course, or a grade of 6 or 7 on the International Baccalaureate Higher Level English course, or a grade of 5 on the Advanced Placement English (Language Composition: Literature and Composition) course.

(4) Graduation from a degree program offered by an accredited university at which English is the primary language of instruction and in a country where English is the principal language.

(5) A score of at least 580 on the Test of English as a Foreign Language (TOEFL) or a score of at least 90 on the Michigan English Language Assessment Battery (MELAB). The TOEFL results must include a score of at least 50 on each of the three components.

Note: Authority to hear petitions and to waive the requirement for undergraduate applicants to write the TOEFL resides with the Registrar acting on behalf of the faculties. Exemptions will be based on assessments of the applicant's English language proficiency as evidenced by a written petition and a personal interview. Please direct enquiries and petitions to the Associate Registrar, Admissions.

Further information is available from Examinations and Timetabling, Office of the Registrar, Room 120, Administration Building. TOEFL application forms are available from the Student Access Centre, Office of the Registrar, Administration Building; or by writing directly to Educational Testing Service, Princeton, New Jersey, U.S.A., 08540.

Tuition Deposit:

Upon notification of acceptance successful applicants will be required to confirm their intention to register by submitting a non-refundable $50.00 deposit within a specified time. The deposit will be credited toward payment of tuition upon completion of registration.

142.1.1 Classification of Matriculation Subjects

Group A (Humanities)

Social Studies 30
30-level Language other than English
Additional 30-level Language other than English

Group B (Fine Arts)

Art 30
Art 31
Commercial Art 35
Visual Communications 32A, B, or C
Drama 30
Music 30
Music 31
Performing Arts 35A, B, or C

Group C (Sciences)

Biology 30
Chemistry 30
Mathematics 30
Mathematics 31
Physics 30

Group D (Optional Subjects)

Students using a Group D subject for admission must present either one 5-credit, or any combination of two 3-credit, D subjects:

Experimental Psychology 30
World Religion 30
World Geography 30
Philosophies of Man 30
Microeconomics 30
Macroeconomics 30
Clothing & Textiles 30
Food Science 30
Personal Living Skills 30
Accounting 30
Law 30
Computer Processing 30
Basic Business 30
Industrial Arts 30A or 30B
Selected courses in: Vocational Education 32
Religious Studies 35 (for approved Alberta schools)

142.1.2 Requirements for the Collaborative BScN Program

Conditional offers of admission will be granted to some high school applicants based on partial completion of Alberta Grade 12 standing. Enrollment in the Collaborative BScN Program is limited by quota. First priority is given to Alberta residents.

Matriculation Requirements

English 30
Chemistry 30
Biology 30
Mathematics 30 or 31, or Physics 30
Subject from Group A, B, C, or D

Required Average

At least 70 per cent.

Completed University of Alberta Application for Admission or Readmission forms must be recieved by the Office of the Registrar by May 1. On receipt of this application, reference forms and a Faculty application questionnaire will be sent to the applicant.

Applications from high school students require the completion of all of the following items by **May 15:**

Faculty application questionnaire
References (2)
Letter from high school or college stating mid-term marks on courses in progress

Applications from transfer students from other University of Alberta faculties and other universities require the completion of all of the following items by **May 15:**

Faculty application questionnaire
References (2)
Complete high school and post-secondary records. (Post-secondary records of current courses may be submitted up to July 1)

To be eligible for admission, a minimum grade point average of 5.0 is required.

Applications from students who have previously been in the program and wish to re-enroll in the Faculty require the completion of all of the following items by **May 15:**

- Faculty application questionnaire
- References (2)
- Satisfactory academic achievement (minimum GPA 5.0)

Applications from non-matriculated applicants require completion or proof of the following by **May 15:**

- References (2)
- English 30, Chemistry 30, Biology 30, or equivalent, and an average of at least 65%.
- Twenty-four years of age or older.
- Faculty application questionnaire

Note A: A specified schedule of immunization must be completed prior to commencement of clinical practice in the program. The Hepatitis B vaccine is available, free of charge, from the University of Alberta Health Services, after admission to the program.

Note B: Students will be responsible for providing evidence of current certification at the Basic Rescuer's Level in CPR by December 31 of their first year in the BScN Program, and evidence of recertification in each subsequent year. Evidence of CPR certification is required to convocate.

142.1.3 Aboriginal Applicants

a. In addition to the regular quota positions, up to four additional positions per year are available in the basic four-year BScN program for qualified students of Native ancestry within the meaning of the Constitutional Act of 1982, Section 35, Part 2.

b. Interested Aboriginal applicants who do not meet the admission requirements for the Faculty may be considered for admission as probationary students. If they demonstrate satisfactory academic achievement (minimum GPA 4.5) during the probationary year, the relevant successfully completed courses will be credited toward the degree and the student will be formally admitted to Year One of the program.

c. Aboriginal applicants are encouraged to contact the Faculty's Academic Adviser for individual counselling and career planning.

142.1.4 Requirements for Post-RN BScN Program

Matriculation Requirements

English 30
Chemistry 30
Biology 30
Mathematics 30 or 31 or Physics 30
One subject from Group A, B, C, or D

Required Average

At least 65 per cent.

Completed University of Alberta Application for Admission or Readmission forms must be received by the Registrar's Office by May 1. On receipt of this application reference forms and a Faculty application questionnaire will be sent to the applicant.

Note A: PSYCO 104/105 or equivalent and PHYSL 162 or equivalent are required for admission to the BScN Program for Registered Nurses.

Note B: Applicants must provide evidence of eligibility for registration in the Alberta Association of Registered Nurses (AARN) or evidence of current registration or licensure in another Canadian jurisdiction. Foreign students must provide evidence of (a) current registration in another jurisdiction, and (b) graduation from a general nursing program considered equivalent by the AARN to an approved School of Nursing in Alberta at the time the program was taken.

Note C: Application from non-matriculated applicants requires completion or proof of the following by May 15:

- References (2)
- English 30, Chemistry 30 or equivalent, and an average of at least 65%
- Twenty-four years of age or older
- Graduate Nurse Information form

Admission to the Post-RN degree program from another University or Faculty is based upon assessment by the Program Admissions and Selections Committee of an individual applicant's previous achievement.

Note D: Enrollment is limited by quota. Deadlines for completion of application files are February 15 and May 15. Those files completed before February 15 will be considered by the Admissions Committee shortly after that date; those completed following February 15 will be considered shortly after May 15. Not all eligible applicants considered at the early date can be admitted due to the proportionate numbers of the quota, but this does not necessarily preclude reconsideration in May.

A completed application file consists of the following documents:

(1) Application for Admission or Application for Readmission form

(2) References (2)

(3) Graduate Nurse Information Form

(4) Official transcripts of:
   a. high school education
   b. diploma nursing program
   c. any other post-secondary education taken

(5) Proof of current active registration in the AARN or valid permit from AARN to practice nursing in Alberta as described in §142.1.3 Note B.

(6) Record of immunization status

A specified schedule of immunization must be completed prior to admission. The Hepatitis B vaccine is available, free of charge, from the University of Alberta Health Services, after admission to the program. Successful applicants whose schedule is not complete at the time of consideration will be admitted provisionally.

142.1.4 Requirements for Special Students

Special Students are those who have been permitted to register in more than one course, but not officially for credit toward a degree or diploma at this or any other institution. Those wishing to take only one course at a time may do so as Unclassified Students (please refer to §13.10 of this Calendar). Such students may subsequently apply for admission to a degree program and, upon admission, may receive credit in that program for courses successfully completed as a Special or Unclassified Student.

Normally applicants must be enrolled in or graduated from an approved School of Nursing in Alberta or provide evidence of graduation from a general nursing program considered equivalent by the Alberta Association of Registered Nurses.

Applications, together with official transcripts of high school education, diploma nursing program, and registered nurse examination results, must be submitted by the dates specified in §14.2.

142.2 Academic Standing and Graduation

142.2.1 Requirements for Collaborative and Four-Year Basic Programs

(1) For promotion, a student is required to pass all courses and attain a minimum grade point average of 4.5 in any year. For graduation, an overall grade point average of 5.0 is required. Entrance to Year III of the Collaborative Program is governed by quota and open for competition to second-year students from all participating nursing programs.

(2) A minimum grade of 4 is required to receive credit in all courses.

(3) Reexaminations:
   a. Students in the Faculty of Nursing will be permitted a reexamination only under extenuating circumstances and at the discretion of the Dean.
   b. Students are permitted only one reexamination during the program.
   c. Students requesting a reexamination must follow the procedures detailed in §16.5.4 of this Calendar.

(4) Students must complete both theory and practice components of nursing courses in order to receive credit. Students who have not received a pass in the clinical/laboratory portion of a nursing course will not be given credit for the course and will be required, if readmitted, to repeat both the clinical and non-clinical portions of the course. The clinical component as spelled out in the course outline must be completed for credit to be granted.

(5) A student who is absent more than two clinical days in any one clinical nursing course may be required to make up the lost time before being allowed to continue in the program.

(6) Matters regarding a student's academic status, including course grades, may become the subject of an appeal. Students with such problems are advised to consult first with the instructor of the course concerned. If a satisfactory resolution is not reached, the student may approach the Course Leader or the Associate Dean for Undergraduate Education to discuss the matter further. A formal appeal may then be activated by an official letter of appeal from the student to the Dean. The Faculty of Nursing Appeals Committee will meet to consider the case. Details of appeal procedures at the Faculty level are available from the Dean's Office. Students have the right to appeal a Faculty of Nursing Appeals Committee decision, with the exception of grade appeals, to the General Faculties Council Academic Appeals Committee. (See §16.8 Appeals and Grievances of this Calendar.)

(7) Credit by special assessment is available in certain courses under specific circumstances. Please see §13.9.5 in this Calendar, and request any further information required from the Faculty of Nursing.

(8) Students are responsible for the completeness and accuracy of their registrations. Particular care should be exercised with regard to prerequisite courses. Students are responsible for adjustments in registration made necessary by reexamination results.

(9) Normally, collaborative and basic baccalaureate nursing students will be granted six years from the time of admission to complete requirements for the BScN Degree.

Note A: Students will be responsible for obtaining transportation to field placements and for the costs of necessary travel and accommodations. Students may be required to relocate for field placements.

Note B: Students who fail to satisfactoriily complete a Nursing course which is prerequisite to another Nursing course in the program **must** make application for readmission to the program by completing an Application for Readmission form. Such readmission is not to be considered automatic.

Note C: Students are required to purchase a stethoscope, a penlight, and a lab coat (total cost approximately $100.00).

Note D: Students will be responsible for purchase of uniforms in accordance with Nursing Undergraduate Association specifications.

142.2.2 Requirements for Post-RN Program

(1) For promotion, a student is required to pass all courses and attain a minimum grade point average of 4.5 in any year. For graduation, an overall grade point average of 5.0 is required.

(2) A minimum grade of 4 is required to receive credit in all courses.

(3) Reexaminations:

a. Students in the Faculty of Nursing will be permitted a reexamination only under extenuating circumstances and at the discretion of the Dean.

b. Students are permitted only one reexamination during the program.

c. Students requesting a reexamination must follow the procedures detailed in §16.5.4 of this Calendar.

(4) Students must complete both theory and practice components of Nursing courses in order to receive credit. Students who have not received a pass in the clinical/laboratory portion of the nursing course will not be given credit for the course and will be required, if readmitted, to repeat both the clinical and non-clinical portions of the course. The clinical component as spelled out in the course outline must be completed for credit to be granted.

(5) Matters regarding a student's academic status, including course grades, may become the subject of an appeal. Students with such problems are advised to first consult with the instructor of the course concerned. If a satisfactory resolution is not reached, the student may approach the Course Leader or the Associate Dean for Undergraduate Education to discuss the matter further. A formal appeal may then be activated by an official letter of appeal from the student to the Dean. The Faculty of Nursing Appeals Committee will meet to consider the case. Details of appeal procedures at the Faculty level are available from the Dean's Office. Students have the right to appeal a Faculty of Nursing Appeals Committee decision, with the exception of grade appeals, to the General Faculties Council Academic Appeals Committee. (See §16.8 of this Calendar).

(6) Students will normally be granted five years from the time of admission to NURS 466 to complete requirements for the degree.

(7) Students are responsible for the completeness and accuracy of their registrations. Particular care should be exercised with regard to prerequisite courses. Students are also responsible for adjustments in registration made necessary by reexamination results.

(8) Although advanced credit towards the nursing degree can be given for course work completed at a university other than the University of Alberta, a minimum of 36 units of course weight must be taken at the University of Alberta before the degree can be granted.

(9) Another route to the Degree involves taking courses at an off-campus site on a part-time basis. Please contact the Faculty of Nursing for further information on this aspect of the program.

(10) Credit by special assessment is available in certain courses under specific circumstances. Please see §13.9.5 in this Calendar and contact the Faculty of Nursing for more information.

(11) Students enrolled in the degree program may enroll in NURS 502, 503, or 550 as extra to their BScN degree if they have:

a. completed at least 75% of their program of studies;

b. completed at least 75% of their core nursing courses (NURS 466, 467, 480 and 486);

c. completed NURS 388 and PSYCO 211 (or SOC 210 or STAT 141);

d. obtained a GPA of 8.0 or higher in their post-basic university courses;

e. have, at minimum, two years of clinical nursing experience; and

f. obtained consent from the appropriate course Instructor(s) and the Associate Dean for Graduate Education.

Normally, undergraduate students will be considered for enrollment in these courses, on a competitive basis, after the graduate nursing students have registered.

Note A: Students will be responsible for obtaining transportation to field placements and for the cost of necessary travel and accommodations. Students may be required to relocate for field placement.

Note B: Students are required to purchase a stethoscope, a penlight and a lab coat (total cost approximately $113.00).

143 Programs of Study

143.1 Collaborative BScN Program

(For students entering as of September 1991)

First Year

First Term	Hours	Units of Course Weight
NURS 100	3-0-0	3.0
NURS 101	3-0-3	4.0
NURS 102	3-0-0	3.0
NURS 105	3-0-0	3.0
PSYCO 104	3-0-0	3.0
PHYSL 162*	3-0-0	3.0
		Total 19.0
Second Term		
NURS 103	3-0-0	3.0
NURS 104	3-3c-3	5.0
NURS 106	3-0-0	3.0
SOC 100 or Intro ANTHR	3-0-0	3.0
PHYSL 162*	3-0-0	3.0
		Total 17.0

*This is a course worth six units of course weight.

Intersession
NURS 107 Minimum of 220 hrs 6.0

Second Year

First Term		
NURS 200	3-0-0	3.0
NURS 201	3-0-0	3.0
NURS 202	3-0-0	3.0
NURS 203 or 204	4-15c-0	9.0
		Total 18.0
Second Term		
NURS 203 or 204	4-15c-0	9.0
MMID 233	3-0-3	3.0
English Elective	3-0-0	3.0
PSYCO 105	3-0-0	3.0
		Total 18.0

Intersession
NURS 205 Minimum of 220 hrs 6.0

Third Year

(Admission to quota occurs at this point)

First Term		
NURS 300	3-0-0	3.0
NURS 302 or 303	4-15c-0	9.0
Statistics Elective	3-0-0	3.0
Family Elective	3-0-0	3.0
		Total 18.0
Second Term		
NURS 301	3-0-0	3.0
NURS 302 or 303	4-15c-0	9.0
PHIL Elective	3-0-0	3.0
POL S Elective	3-0-0	3.0
		Total 18.0

Year Four

First Term		
NURS 400	3-3c-0	4.0
NURS 401	3-3c-0	4.0
NURS 402	3-0-0	3.0
*Elective	3-0-0	3.0
*Elective	3-0-0	3.0
		Total 17.0
Second Term		
NURS 403	6-31c-0	8.0
NURS 404	0-37c-0	6.0
		Total 14.0

143.2 BScN Four-Year Basic Degree Program

(For all students who entered the program prior to September 1991.)

Second Year

First Term	Hours	Units of Course Weight
FD NU 225	3-0-0	3.0
NURS 320 or 321	5-12c-0 or 4-14c-0	6.0
PMCOL 301	3-0-0	3.0
SOC 100	3-0-0	3.0
		Total 15.0
Second Term		
NURS 321 or 320	4-14c-0 or 5-12c-0	6.0
NURS 333	3-0-0	3.0
SOC 102	3-0-0	3.0
*Elective	3-0-0	3.0
		Total 14.0

Intersession
NURS 325 120 hours clinical practice in three weeks

Third Year

First Term	Hours	Units of Course Weight
FAM 211 or SOC 271	3-0-0	3.0
NURS 366	6-16c-0	9.0
PSYCO 211 or SOC 210 or 141	3-0-1, or 3-0-2, or 3-0-0	3.0
*Elective	3-0-0	3.0
	Total	18.0
Second Term		
NURS 367	6-16c-0	9.0
SOC 465	3-0-0	3.0
NURS 388	3-0-0	3.0
		Total 15.0

Intersession
NURS 464 240 hours clinical practice in six weeks

Fourth Year

First Term		
NURS 474	3-6c-0	4.0
NURS 480	2-0-1	3.0
NURS 482	3-2s-0	4.0
*Elective	3-0-0	3.0
*Elective	3-0-0	3.0
		Total 17.0
Second Term		
NURS 481	3-0-4	4.0
NURS 485	0-2s-6c-0	3.0
*Elective	3-0-0	3.0
*Elective	3-0-0	3.0
*Elective	3-0-0	3.0
		Total 16.0

*Electives must be chosen from:
Humanities (six units of course weight)
Senior Social Science (six units of course weight)
Senior unspecified elective (six units of course weight)
Senior Political Science (three units of course weight)
Senior Philosophy or Religious Studies (three units of course weight)

143.2.1 Official Designation of Courses into Categories

(1) **Humanities and Fine Arts:** All languages and literatures, Art, Christian Theology, Classics, Comparative Literature, Drama, English, History**, Music, Philosophy, Religious Studies.

(2) **Social Sciences:** Anthropology, Economics, Geography*, History**, Linguistics*, Political Science, Psychology*, Sociology.

*only those courses offered by the Faculty of Arts
**may be counted under either category but not both

(3) **Sciences:** Any courses offered by the Faculty of Science, Foods & Nutrition (Faculty of Home Economics), Food Science (Faculty of Agriculture) cannot be used as a science elective.

Note: Where disciplines are acceptable as both Social Sciences and Sciences (e.g., Geography, Linguistics, Psychology), those courses offered by the Faculty of Arts will be applicable to a student's program as Social Sciences and those offered by the Faculty of Science will be applicable to a student's program as Sciences.

(4) **Exceptions:**

a. Credit will be given for only **one** of the following: SOC 271, FAM 211, SOC 316 (Athabasca University), SOAN 384 (Athabasca University).

b. Credit will be given for SOC 376 or a senior Christian Theology course for a Senior Philosophy/Religion elective.

c. Credit will be given for only **one** of:

NURS 319 or PSYCO 223. PSYCO 223 is not equivalent to NURS 319; students wishing to take this course instead of NURS 319 require permission from the Academic Adviser.

d. Credit will be given for only ONE of SOC 321 or 224, not both.

Note: Students will be responsible for providing evidence of current certification at the Basic Rescuer's Level in CPR by December 31 of their first year in the BScN Program, and evidence of recertification in each subsequent year. Evidence of CPR certification is required to convocate.

.3 BScN — Post-RN Degree Program

d Year

Term	Hours	Units of Course Weight
IS 466	2-2s-0	3.0
IS 467	3-4c-0	(4.0)
IS 319	3-0-0	3.0
IS 439	3-0-0	3.0
		Total 13.0
ınd Term		
IS 468	3-0-3	3.0
IS 486	3-6c-0	6.0
C 271 or FAM 211	3-0-0	3.0
C 465	3-0-0	3.0
		Total 15.0
rth Year		
Term		
S 481	3-0-4	4.0
S 484	0-2s-6c-0	3.0
S 388	3-0-0	3.0
NU 225	3-0-0	3.0
CO 211 or SOC 210	3-0-1, or	
TAT 141	3-0-2, or 3-0-0	3.0
	Total	16.0
ond Term		
IS 480	2-0-1	3.0
IS 487	3-3c-0	4.0
		Total 7.0

ctives (Required)

Science (3 units of course weight)
Senior Elective (6 units of course weight)
Senior Philosophy or Religious Studies (3 units of course weight)
Senior Political Science (3 units of course weight)
Senior Social Science (6 units of course weight)

is course is a prerequisite or corequisite to another. ase see course descriptions for details.

OC 271 requires a prerequisite of SOC 100 or 103 or . If a student has not completed one of the prerequi-s, it is recommended that SOC 300 be taken in the year of the program and SOC 271 taken later in the gram. SOC 300 meets the three units of course ght in a senior Social Science or the three units of rse weight in a senior elective requirement.

icial Designation of Courses into Categories

Please refer to §143.2.1 of this Calendar.

Note A: Evidence of current certification at the sic Rescuer's Level in CPR will be required prior to duation.

Note B: Registered nurses planning to enroll and mplete the BScN (Post-RN) Degree Program on a t-time basis, must plan their program ahead to meet prerequisite requirements of the core nursing courses. meet these requirements NURS 319 and NURS 439 y be taken as Special Students in the Faculty of rsing. Those wishing to take only one course at a time y do so as Unclassified students (please refer to 3.10 of this Calendar). Upon admission to the Faculty Nursing BScN Degree Program, students are required register in NURS 466 and 467 in first term and NURS 9 and 486 in second term. Students should consult h the Student Adviser if they are unable to register for four courses in the year of admission.

Note C: Full-time students are given priority for mission to Nursing courses. When the course quota is , part-time students may have to delay attendance.

Note D: Students will be responsible for the cost of vel, room, and board for field placements.

Note E: Students are required to purchase a stetho-ope, a penlight and a lab coat (total cost approximately 00.00).

Note F: A number of courses suitable for transfer to e Post-RN BScN program are available through (a) habasca University, (b) University of Alberta Special ssions, taught in centres outside Edmonton, and (c) her Alberta universities and colleges. Official transcripts work completed at institutions other than the Univer-y of Alberta for credit to this program must reach the niversity of Alberta no later than April 30 for Spring onvocation or September 30 for Fall Convocation.

143.4 Certificate Program in Critical Care Nursing

This certificate program is offered under the joint sponsorship of The University of Alberta Faculty of Nursing and the Misericordia Hospital School of Nursing. It consists of two theory courses with related clinical practice:

NURS 377, Nursing Care of the Critically Ill Adult in Emergency and Intensive Care Units I;
NURS 378, Nursing Care of the Critically Ill Adult in Emergency and Intensive Care Units II

The two courses may be credited as three units of course weight in a senior elective and NURS 484 or as six units of course weight in a senior elective in the Post-RN Baccalaureate Program.

Application for admission to the Certificate Program in Critical Care Nursing is made through the Critical Care Nursing Program, Misericordia Hospital, School of Nursing.

143.5 Certificate Program in Neonatal Nursing

This certificate program is offered under the joint sponsorship of the University of Alberta Faculty of Nursing, University of Alberta Hospitals Department of Nursing, and University of Alberta Department of Paediatrics. It consists of three theory courses with related clinical practice:

NURS 453	Nursing Care of the Normal and High Risk Newborn;
NURS 493	Nursing Intervention in Neonatal Intensive Care;
PAED 501	Pathophysiology of Newborn Diseases.

The above courses may be credited in the Post-RN Baccalaureate Program as follows:

NURS 453	as NURS 484
NURS 493	as 3 units of course weight in a senior elective
PAED 501	as 3 units of course weight in a senior elective

Application for admission as special students to the Certificate Program in Neonatal Nursing must be made through the Faculty of Nursing, Third Floor, Clinical Sciences Building, Edmonton, Alberta by **May 15** for September admission. Students will be selected by a committee of representatives of the three sponsoring departments.

143.6 Certificate Program in Nephrology Nursing

This certificate program is offered under the joint sponsorship of the University of Alberta Faculty of Nursing, University of Alberta Hospitals Department of Nursing, and the University of Alberta Faculty of Medicine. It consists of three theory courses with related clinical practice:

NURS 313	Nephrology Nursing I
NURS 314	Nephrology Nursing II
MED 436	Pathophysiology of Clinical Renal Disease and Related Disorders

The above courses may be credited in the Post-RN Baccalaureate Program as follows:

NURS 313 or 314 as NURS 484;

The remaining two courses as six units of course weight in a senior elective.

Applications for admission as special students to the Certificate Program in Nephrology Nursing must be made through the Faculty of Nursing, Third Floor, Clinical Sciences Building, Edmonton, Alberta, by **May 15** for September admission. Students will be selected by a committee of representatives of the three sponsoring departments.

143.7 Degree of Master of Nursing

143.7.1 General Information

The Faculty of Nursing offers a two-year program which provides preparation for advanced nursing practice across the health-illness continuum. The aim of the program is to prepare nurses to function as advanced level practitioners in hospital, community, or educational settings. The options of undertaking a Certificate in Nurse-Midwifery along with the Master of Nursing program and an MN degree with a Nursing Administration minor are also available.

The Faculty of Nursing's proposed PhD in Nursing program was approved by the Board of Governors in May 1986 "subject to appropriate funding." When funding is obtained, application and program details will be publicized through professional journals and notices to all university faculties of nursing and major professional nursing associations.

The Faculty of Nursing is committed to the principle of research-based nursing practice. The Faculty research development program includes visits by leading nurse scientists, a research office, community-wide nursing research seminars, thesis seminars, computer facilities, and provision for the communication of nursing research. Also, the Canadian Clearinghouse for Ongoing Research in Nursing (CCORN), housed within the Faculty, provides a computerized data base accessible to North American researchers.

143.7.2 Entrance Requirements

The Faculty's minimum admission requirements are:

(1) A baccalaureate degree in Nursing with an average of at least 6.5 (approximately 70%) in the work of the final two years (or an equivalent qualification from a recognized institution).

(2) Three letters of reference (criteria described in the application form).

(3) An undergraduate course in each of statistics and research methods.

(4) Normally, applicants wishing to undertake the MN degree program must have a minimum of one year of clinical nursing experience.

(5) A TOEFL score of at least 580 where applicable (see §202.2.2 of this Calendar).

(6) Submission of the results of a Miller Analogies Test (no arbitrary standard is used).

(7) Applicants wishing to undertake the combined MN degree and Certificate in Nurse-Midwifery program must meet the following admission requirements in addition to requirements 1-3:

a. appropriate work experience of at least two years in maternal-newborn nursing including six months (minimum) in labor and delivery, and

b. two of the three required references must be from maternal-newborn work situations.

Upon acceptance into the MN program, the following additional requirements must be met by each student:

(1) A specified schedule of immunization must be completed prior to commencement of clinical practice in the program.

(2) Evidence of active registration in the Alberta Association of Registered Nurses (AARN) **or** of possession of a valid permit from the Alberta Association of Registered Nurses to practice nursing in Alberta is required.

(3) Completion of Health Assessment (NURS 468) or an equivalent course. MN students who do not meet this requirement must do so by the end of the first year of the MN program. This requirement is in addition to the graduate program courses and entails the payment of extra fees. Credits obtained for such a course are not applicable to the MN degree.

(4) Evidence must be provided of certification at the Basic Rescuer's Level in CPR by December 31 of the first year in the MN program. Annual recertification while in the MN program must meet the requirements of whatever agency(ies) the student is involved with.

Financial Assistance

Information regarding assistantships and other forms of financial assistance will be supplied on request.

143.7.3 The Degree of MN — Program Requirements

Student programs are designed on an individual basis within the MN curriculum framework. Programs are planned in light of the student's career goals, clinical interests, and research interests of relevance to nursing practice.

Each student's program will normally consist of NURS 502, NURS 503, NURS 505, one course in nursing practice (e.g., NURS 506), one course in the nursing profession (three units of course weight), one graduate-level statistics course (three units course weight),

one graduate-level research course (three units of course weight), and two electives (three units of course weight each). In addition, students are required to register in NURS 599 (Thesis Seminar) for one academic year (two terms) during the program.

A thesis is required of all students.

MN candidates pursuing a certificate in Nurse-Midwifery in combination with the MN degree undertake NURS 453, 514, 517, 518, 519, and a course in reproductive physiology.

No language other than English is required for the MN.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta

Length of Program:

The time required to complete the program varies according to the candidate's undergraduate preparation and career experience, and the nature of the research undertaken. Generally, a minimum of two academic years plus one summer is required. Maximum time allowed is four years.

144 Details of Courses

144.1 General Information

Each course is designated by its computer abbreviation and a number.

Following the title of the course is the symbol "★" standing for **units of course weight**, and a number indicating the weight of the course as used in computing grade-point averages. An ordinary full-session course is weighted six. A single-term course is normally weighted three. Some honors and graduate courses involving research may vary in weight according to the length and difficulty of the research project. Some clinical courses may vary in weight according to the length of clinical experience. Some courses are offered for credit only, and carry no weight.

The next three figures, enclosed in parentheses, indicate the hours of instruction required by the course in a week. The format is as follows: the first position indicates lecture hours; the second position indicates seminar hours (s), demonstration (d), clinic (c), or lecture-lab (L); and the third position indicates laboratory hours. The expression "3/2" means three hours of instruction every second week. The hours of instruction for a full-session course are the same in both terms unless otherwise indicated. If the course is a single-term course, the term in which it may be offered is mentioned before the hours of instruction.

The appearance of a course description in the following list does not constitute any guarantee that the course will actually be offered in the forthcoming session. Information as to which courses will be offred, the names of the Instructors, and all further details must be sought from the Faculty of Nursing.

Physical Requirements for University Courses

The University has a commitment to the education of all academically qualified students and special services are frequently provided on campus to assist disabled students.

Nevertheless, some courses make certain unavoidable demands on students, with respect to the possession of a certain level of physical skill or ability, if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the Faculty of Nursing and the Disabled Student Services Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for all off-campus courses, instructors may be obliged to refuse registration in such courses.

144.2 Interdisciplinary Courses

INT D 370 Survey on International Health
★3 (second term, 3-0-0). Overview of health issues and organization in a cross-cultural context with emphasis on developing and newly industrialized countries. Prerequisite: Completion of 10 full courses in any program or consent of the instructor. (Dentistry, Medicine, Nursing, Pharmacy, Rehabilitation Medicine, and Social Sciences).

144.3 Nursing Courses

144.3.1 Undergraduate Courses

NURS 100 Nursing I
★3 (first term, 3-0-0). Introduction to the profession of nursing, including historical perspectives, roles and functions, levels of organization, and models of nursing. Trends in health care systems and nursing in primary health care settings will be addressed.

NURS 101 Interpersonal Communication
★4 (first term, 3-0-3). Application of theory and development of interpersonal communication skills in relation to conditions of helping. Content will focus on self-awareness, group process, and nurse-client interactions.

NURS 102 Healthy Living
★3 (first term, 3-0-0). The determinants of health (including beliefs and values) and the identification of major influences on lifestyle and personal health practices (exercise, nutrition, stress management) across the life span will be examined. Beginning skills in health status appraisal will be developed. Ethics in health promotion counselling, client rights, and the advocacy role with respect to health will be the central focus.

NURS 103 Growth and Development
★3 (second term, 3-0-0). Focuses on theories of human growth and development and assessment of individuals and families throughout the life span.

NURS 104 Introduction to Assessment and Clinical Nursing Practice
★5 (second term, 3-3c-3). Principles and techniques of nursing fundamentals and health assessment will be introduced. Students will assess the health status of adult clients and provide appropriate basic nursing care. Prerequisite: NURS 101.

NURS 105 Anatomy
★3 (first term, 3-0-0). Introduction to the structure of the human body.

NURS 106 Introduction to Nursing Pharmacotherapeutics
★3 (second term, 3-0-0). Introduction to the study of drugs and their therapeutic use and effects. The nursing role in promoting optimal therapeutic regimens and in the management of side/adverse effects will be included. Prerequisite: NURS 105. Corequisite: PHYSL 162.

NURS 107 Clinical Nursing Practice I
★6 (Intersession, 220 hours) Includes theory and practice components. The primary focus will be client-centered nursing care of hospitalized adults. Selected learning experiences in alternative settings may be included. Prerequisite: NURS 100, 104, 106.

NURS 200 Nursing II
★3 (first term, 3-0-0). Focuses on nursing care of individuals. Selected nursing roles, strategies and factors that influence role implementation will be explored. Prerequisite: NURS 107.

NURS 201 Teaching and Learning
★3 (first term, 3-0-0). Introduction to theories and practice of teaching and learning. Focus will be on the process of teaching and learning situations in the health care field. Prerequisite: NURS 101, PSYCO 104.

NURS 202 Pathophysiology
★3 (first term, 3-0-0). Introduction to pathological processes. The course will focus on the general principles of disease and disorders that affect the body as a whole. Prerequisite: NURS 105, PHYSL 162.

NURS 203 Nursing Care of Individuals Within Families: Adult/Older Adult
★9 (either term, 4-15c-0). Theory and practice related to nursing care of adults and older adults and their families in medical-surgical settings. Students will have the opportunity to interact with a family through home visits. Prerequisite: NURS 103, 107. Prerequisite or corequisite: NURS 201, 202.

NURS 204 Nursing Care of Individuals Within Families: Child-Bearing/Child-Rearing
★9 (either term, 4-15c-0). Theory and practice related to nursing care of individuals in child-bearing and child-rearing families in community and hospital settings. Students will have the opportunity to interact with a family through home visits. Prerequisite: NURS 103, 107. Prerequisite or corequisite: NURS 201, 202.

NURS 205 Clinical Nursing Practice II
★6 (Intersession - 2nd year, 220 hours). Includes theory and practice components. The primary focus will be client-centered nursing care of hospitalized adults and children. Selected learning experiences in alternative settings may be included. Prerequisite: NURS 107, 200, 202, 203, 204.

NURS 300 Nursing III
★3 (first term, 3-0-0). Focuses on nursing care related to families, with emphasis on selected nursing roles, strategies and factors that influence role implementation. Prerequisite: NURS 205.

NURS 301 Nursing Research
★3 (second term, 3-0-0). Introduction to the process of research through a comparative anaylsis of selected studies exemplifying different theoretical, methodological, and analytical approaches. Emphasis will be on the communicability of research, the needs of the research consumer, and the development of skills of critical appraisal. Prerequisite or corequisite: Statistics elective.

NURS 302 Nursing of Family Systems
★9 (either term, 4-15c-0). Theory and practice related to the promotion of family health and to the care of family systems experiencing episodic or continuing health concerns. Students will develop skills in utilizing nursing models to assist clients toward optimal functioning in community-based settings. Prerequisite: NURS 205. Prerequisite or corequisite: Family elective.

NURS 303 Nursing Care of Individuals and Families: Mental Health Nursing
★9 (either term, 4-15c-0). The focus is on theory and practice related to promotion of mental health and care of clients with mental health problems and mental disorders. Students will further develop and integrate their skills in promoting optimal client functioning in hospital and community settings. Prerequisite: PSYCO 104, 105, NURS 103, 107. Prerequisite or corequisite: NURS 201, 202. Collaborative Baccalaureate Program - Red Deer College/University of Alberta Prerequisite: Successful completion of Year II at Red Deer College.

NURS 319 Developmental Assessment
★3 (either term, 3-0-0). Focus is on the assessment of age-appropriate human physical, cognitive and social development from conception to death.

NURS 320 Assisting Dimensions of Nursing I
★6 (either term, 5-12c-0). Theory and practice in nursing care of patients in different age groups with stable and predictable conditions in acute care settings. Prerequisite: NURS 311, NURS 319.

NURS 321 Nursing of the Childbearing Family
★6 (either term, 4-14c-0). Nursing of the childbearing family in the prenatal, intrapartum and postnatal periods. Nursing care is focused on the needs of families in both community and hospital settings. Prerequisite: NURS 311 and NURS 319.

NURS 325 Clinical Nursing in Acute Care Settings II
★3 (Intersession, 40 hours clinical practice per week for three weeks). Provides opportunity for in depth clinical practice involving care of individuals in selected age groups with health deviations. Emphasis on the integration of content (knowledge, skills and attitudes) from nursing and related disciplines. Prerequisite: NURS 320, 321 and 333.

NURS 333 Medical Sciences
★3 (second term, 3-0-0). An introduction to medical sciences through the study of pathological processes. The course will focus on the general principles of disease and disorders that affect the body as a whole. Prerequisite: PHYSL 162, PESS 200.

NURS 366 Nursing of Individuals in Families and Small Groups I
★9 (first term, 6-16c-0). Emphasizes the increasing complexity in implementing the nursing process for individuals as members of families/small groups primarily in acute care settings. Self-care focus is on individuals with organic-behavioral deviations who are in a variety of developmental stages. Prerequisite: NURS 325.

NURS 367 Nursing of Individuals in Families and Small Groups II
★9 (second term, 6-16c-0). Emphasizes the increasing complexity in implementing the nursing process for individuals as members of families/small groups primarily in acute care settings. Self-care focus is on individuals with organic-behavioral deviations who are in a variety of developmental stages. Prerequisite: NURS 366.

NURS 388 Research Perspectives
★3 (either term, 3-0-0). An introduction to the process of research through a comparative analytical survey of selected studies exemplifying different methodological approaches. Emphasis will be on the development of critical appraisal skills.

NURS 400 Nursing IV
★4 (first term, 3-3c-0). Theory and practice related to nursing care of aggregates, with emphasis on health promotion and primary health care. Selected nursing roles, strategies and factors that influence role implementation will be included. Prerequisite: NURS 300. Prerequisite or corequisite: NURS 301, 302, 303.

NURS 401 Nursing Management
★4 (first term, 3-3c-0). Introduction to the theory and practice of management applied to settings where nurses work. Emphasis will be placed on theories of organization, management, and leadership, as well as on selected nursing systems and worklife issues. A practice component is included. Prerequisite: NURS 300, 301, 302, 303.

NURS 402 Nursing Issues
★3 (first term, 3-0-0). A variety of current professional, social, political, and global trends and issues affecting the nursing profession and health care system within

anada will be addressed. The course is aimed at ntensifying the empowerment of nurses. Students will ave the opportunity to examine, analyze, and evaluate elected trends and issues. Prerequisite: NURS 300, 02, 303.

NURS 403 Senior Nursing Elective
★6 (second term, 6-31c-0). Theoretical and clinical ourse focusing on knowledge and practice in a selected rea of nursing. Taught over 6 1/2 weeks with a minimum otal of 220 hours. Prerequisite: NURS 300, 301, 302, 303.

NURS 404 Senior Nursing Practicum
★6 (second term, 0-37c-0). Clinical practicum which rovides students with the opportunity to practise nurs- ng with a selected group of clients in a particular etting. Focus will be on integration of previous learning nd transition to the graduate role. Taught over 6 1/2 eeks with a minimum total of 220 hours. Prerequisite: NURS 300, 301, 302, 303.

NURS 439 Principles of Teaching and Learning for Health Care Professionals
★3 (first term, 3-0-0). Introduces the student to princi- ples of teaching and learning in a self-directed learning atmosphere. Focus will be on individual and group investigation of topics relevant to these principles and to teaching situations in the health care field.

NURS 453 Nursing Care of the Normal and High Risk Newborn
★3 (first term, 3-6c-0). Application of physiological prin- ciples to the nursing care of the newborn, preterm and sick infant. The effect of ongoing psychological and social needs in relations with the mother and father. The management of life-support systems in the care of the immature or sick newborn. Prerequisite: Consent of the instructor.

NURS 464 Nursing of Clients with Health Deviations III
★6 (Intersession, 240 hours of clinical experience in 6 weeks). A concentrated learning experience in the nurs- ing care of individuals and/or groups with complex behavioral and organic deviations. All nursing systems will be utilized. No other course can be taken concur- rently. Prerequisite: NURS 367.

NURS 466 Conceptual Frameworks for Nursing Practice
★3 (first term, 2-2s-0). Introduction to the evolution of nursing frameworks; concept development; comparison of selected frameworks.

NURS 467 Interpersonal Communication: Theory and Practice
★4 (first term, 3-4c-0). Focuses on the development of self-awareness, use of self as a therapeutic agent, and the practice of interpersonal communication skills that promote own and client self-care. Group process in relation to the learning group is examined.

NURS 468 Health Assessment
★3 (second term, 3-0-3). The focus is on the health assessment of the well adult, with normal aging modifi- cations. The course provides a beginning foundation of assessment skills and technologies necessary for deter- mining client health status through a health history and physical examination. Prerequisite: NURS 466. Prereq- uisite or corequisite: NURS 319.

NURS 474 Family Nursing in the Community
★4 (first term, 3-6c-0). Focuses on the professional nurse's responsibilities in providing theory-based family- centered care in community settings. Emphasis is placed on health promotion, illness prevention and health main- tenance strategies useful in facilitating the self-care of families. Prerequisite: NURS 319, SOC 271 or FAM 350.

NURS 480 Trends and Issues
★3 (either term, 2-0-1). Exploration of trends and issues arising from societal forces that have implications for nursing practice, education and research at provincial, national and international levels. Students will examine significant demographic, political, economic, legal and ethical issues in the context of scientific and technologi- cal change. Basic nursing students must take this in fourth year.

NURS 481 Management of Nursing Systems
★4 (either term, 3-0-4). Introduction to management of nursing services; field practicum. Prerequisite: SOC 465.

NURS 482 Nursing of Large Groups (Program Planning)
★4 (first term, 3-2s-0). The course will focus on the planning of educational and health delivery programs for large groups. Principles from epidemiology, teaching and learning, and research will be applied in program planning for groups in occupational settings. Corequisite: NURS 474.

NURS 484 Senior Nursing Practicum
★3 (first term, 0-2s-6c-0). Opportunity for nursing prac- tice in a selected clincial area. In-depth study of an aspect related to clinical practice will be undertaken. Requirements will be specified for each section. Prereq- uisite: NURS 466, 467, 468, and 486.

NURS 485 Senior Nursing Practicum
★3 (second term, 0-2s-6c-0). To assist in the transition to graduate nurse role and to provide additional opportu- nity to integrate prior learning. Includes clinical practice with selected groups of patients/clients. Prerequisite: NURS 366, 367, and 474. Corequisite: NURS 482.

NURS 486 Community Health Nursing I
★6 (second term, 3-6c-0). Focuses on the professional nurse's responsibilities in providing theory-based family- centered care in community settings. Emphasis is placed on health promotion, illness prevention and health main- tenance strategies useful in facilitating the self-care of families. Prerequisite: NURS 319, 439, 466, 467. Corequisite: NURS 468; FAM 350/SOC 271.

NURS 487 Community Health Nursing II
★4 (second term, 3-3c-0). Further exploration of the role of the community health nurse in health promotion and illness prevention with selected groups in the commu- nity. There is a focus on the application of principles from epidemiology and teaching and learning in plan- ning educational and health delivery programs. Prereq- uisite: NURS 486.

NURS 493 Nursing Intervention in Neonatal Intensive Care
★3 (second term, 3-6c-0). Nursing care of the high risk infant in a neonatal intensive care unit. Trends and issues in neonatal care will be examined with emphasis on the impact of acute and chronic illness on the physical and psycho-social well-being of the family. Prerequisite: NURS 453 or consent of instructor.

NURS 498 Special Studies in Nursing
★3 (either term, 3-0-0).

144.3.2 Graduate Courses

A list of Graduate Nursing Courses can be found in the Graduate Studies and Research Section of the Calendar.

144.4 Critical Care Nursing Courses

NURS 377 Nursing Care of the Critically Ill Adult in Emergency and Intensive Care Units I
★3 (8-24c-0, 8 weeks). Introduction to assessment and care of patients in emergency and intensive care. Includes classroom and laboratory instruction and supervised practice in a community general hospital.

NURS 378 Nursing Care of the Critically Ill Adult in Emergency and Intensive Care Units II
★3 (8-24c-0, 8 weeks). Continuation of introduction to assessment and care of emergency and intensive care patients. Includes classroom and laboratory instruction and supervised practice in a community general hospital.

144.5 Neonatal Nursing Courses

NURS 453 Nursing Care of the Normal and High Risk Newborn
★3 (first term, 3-6c-0). Application of physiological prin- ciples to the nursing care of the newborn, preterm and sick infant. The effect of ongoing psychological and social needs in relations with the mother and father. The management of life-support systems in the care of the immature or sick newborn. Prerequisite: Consent of the instructor.

NURS 493 Nursing Intervention in Neonatal Intensive Care
★3 (second term, 3-6c-0). Nursing care of the high risk infant in a neonatal intensive care unit. Trends and issues in neonatal care will be examined with emphasis on the impact of acute and chronic illness on the physical and psycho-social well-being of the family. Prerequisite: NURS 453 or consent of instructor.

PAED 501 Pathophysiology of Newborn Diseases
★4 (either term, 78 hours). Basic and clinical lectures on basic pulmonary physiology, respiratory diseases of newborns, assisted ventilation, jaundice, birth asphyxia, cardiac problems, thermal control, fluid and electrolyte balance, resuscitation of newborn, hematologic prob- lems, sepsis, drug use and surgical problems in the newborn. Prerequisite: PAED 446; NURS 453, or con- sent of Department.

144.6 Nephrology Nursing Courses

NURS 313 Nephrology Nursing I
★3 (first term, 3-16c-0). Application of physiological, sociological and psychological principles to holistic nurs- ing care of patients with renal disease.

NURS 314 Nephrology Nursing II
★3 (second term, 3-16c-0). Application of selected con- cepts such as coping, crisis intervention and decision- making to nephrology nursing practice. Prerequisite: NURS 313.

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Pharmacy and Pharmaceutical Sciences

Faculty of Pharmacy and Pharmaceutical Sciences

151 Introductory

151.1 Members of the Faculty

151.1.1 Officers of the Faculty

Dean
RE Moskalyk, PhD

Associate Dean
LI Wiebe, PhD

151.1.2 Academic Staff

Professor, and Dean
RE Moskalyk, PhD (Medicinal Chemistry)

Professors Emeriti
LG Chatten, PhD
MJ Huston, PhD
GE Myers, PhD
LG Stephens-Newsham, PhD

University Professor
RT Coutts, PhD, DSc (Medicinal Chemistry)

Professors
JA Bachynsky, PhD (Pharmacy Administration)
DF Biggs, PhD (Pharmacology)
F Jamali, PhD (Pharmacokinetics)
EE Knaus, PhD (Medicinal Chemistry)
AA Noujaim, PhD (Bionucleonics and Radiopharmacy)
LA Pagliaro, PharmD, PhD (Clinical Pharmacy)
FM Pasutto, PhD (Medicinal Chemistry)
JA Rogers, PhD (Pharmaceutics)
A Shysh, PhD (Bionucleonics and Radiopharmacy)
LI Wiebe, PhD (Radiopharmaceutical Chemistry)
MW Wolowyk, PhD (Pharmacology)

Associate Professors
AJD Friesen, PhD (Pharmacology)
RA Locock, PhD (Medicinal Chemistry)
YK Tam, PhD (Pharmacokinetics)

Assistant Professors
RT Foster, PhD (Pharmacokinetics)
N Pourkavoos, PhD (Pharmaceutics)

Faculty Service Officers
C Ediss, BSc (Bionucleonics)
S McQuarrie, MSc (Bionucleonics)

Professional Officers
C Cox, BSc (Clinical Coordinator)
TW Kassian, BSc (Physical Plant)
A Ponting, BSc (Continuing Education)

Sessional Lecturers
S Heschuk, MSc (Professional Practice)
SL Kelcher, BSc (Professional Practice)
SL Mitchell, BSc (Professional Practice)
B Parasiuk, BSc, (Drug Information Centre)
N Rae, BSc (Professional Practice)

151.1.3 Associate Academic Staff

Adjunct Members
DR Croteau, MSc
M Daneshtalab, PhD
TJ Danielson, PhD
E Friesen, PharmD
G Jones, PhD
AV Joshua, PhD
J Mercer, PhD
RG Micetich, PhD
N Otten, PharmD
JR Scott, MSc
MR Suresh, PhD
T Sykes, PhD
D Wright, MSc
H Yule, MPharm

Honorary Members
GB Baker, PhD (Professor)
WG Dewhurst, FRCP(C) (Professor)
EG Hunter, PhD (FSO)
AJ McEwan, MB (Assistant Clinical Professor)
AAC Yeung, MD (Associate Professor)

151.1.4 Additional Members of the Faculty Council

President and Vice Chancellor
P Davenport, PhD

Dean of the Faculty of Medicine
DR Wilson, MD

Professors
EG Hunter, PhD (Pharmacology)
KJ Hutchison, MD (Physiology)
H-J Liu, PhD (Chemistry)
MA Pickard, PhD (Microbiology)
D Scraba, PhD (Biochemistry)

Representatives
Alberta Pharmaceutical Association
Graduate Students' representative
Undergraduate representative

Registrar of the University
BJ Silzer, MEd

151.2 Opportunities in Pharmacy

Pharmacy is one of the oldest of the professions. It has progressed from the compounding and dispensing of drugs to essentially a "knowledge system" about drugs and drug products. Pharmacy practice has increasingly become oriented to the patient and accordingly requires the aspiring pharmacist to possess good communication skills and to be aware of and sensitive to the frequent need for compassion and understanding.

A variety of career options are open to the pharmacist upon graduation and licensure.

Community Practice

Community practice provides the "place of practice" for the majority of pharmacists. It can take one of many forms, namely, independently owned, a chain, a unit within a department store or a part of a clinic. It can be large, providing a broad range of products and services; or small, dealing exclusively in medicines and related supplies. In whatever form, the practice environment of community pharmacy is one where the professional activities of the pharmacist involve direct contact with the client seeking either prescription medication or self-medication products or services. In balancing the commercial and professional aspects of community pharmacy, the pharmacist remains accountable in ensuring that the patient properly takes only those medicines which are essential for the maintenance of health, the prevention of disease or the rational relief of pain.

Hospital Practice

Hospital pharmacists provide services in complex health care organizations. Traditionally, the pharmacist is responsible for the institutional procurement, preparation, distribution and control of pharmaceuticals. As a member of a health care team, the pharmacist is also responsible for patient-oriented services such as therapeutic consultations, drug information, and patient counselling and education. Some hospital pharmacists find careers by concentrating their practice in specific areas such as management, clinical services, and drug information. Others find rewarding careers as generalists in the country's many smaller to medium-sized institutions.

Pharmaceutical Industry

The pharmaceutical industry has essentially taken over the traditional compounding responsibilities on behalf of the practicing pharmacist. By freeing the pharmacist from the time constraints of the compounding of medication, a redirection toward a patient-oriented pharmacy practice has been made possible.

The pharmacist who chooses the pharmaceutical industry as his practice environment identifies with one or more of the distinct parts of the compounding function: discovery or invention, formulation, ensuring safety, ensuring efficacy or the actual manufacture of the drug. However, one may alternatively become involved with the marketing of the product. The usual way of entry into many companies is via the sales department which is, as well, the area of greatest opportunity for advancement. Opportunities in the other areas are often enhanced for graduates who proceed for postgraduate training in one of the pharmaceutical sciences.

Government Regulatory and Association Pharmacy Services

Career opportunities for pharmacists exist in government departments, both federal and provincial. These opportunities often relate to inspection and analyst functions in the regulatory sense. Each provincial licensing body is staffed by pharmacists involved in regulatory activities, since Pharmacy is a self-governing profession.

Education and Research

Graduates may choose the university as their career environment. Training to the doctoral level is normal, although practicing pharmacists in community, hospital, association and the pharmaceutical industry contribute to specific educational programs.

Opportunities in research can be found in universities, government institutions and in private industry. Once again, training to the doctoral level is often essential.

Finally, many pharmacists have found greatly expanded career opportunities by adding to their basic degree in pharmacy, a degree in law or business.

151.3 Qualifications for Practice in Alberta

The Bachelor of Science degree in Pharmacy of the University of Alberta is the minimum academic requirement accepted by the Alberta Pharmaceutical Association for a licence to practice pharmacy in the Province of Alberta.

In order to register as a pharmacist in Alberta a graduate must also have successfully completed an internship program sponsored and operated by the Alberta Pharmaceutical Association and the qualifying examination administered by the Pharmacy Examining Board of Canada. Information concerning the regulations applying to practical experience in Alberta may be obtained from the Registrar-Treasurer, Alberta Pharmaceutical Association, 10615-124 Street, Edmonton, Alberta, T5N 1S5. Information concerning the Qualifying Examination may be obtained from the Registrar, Pharmacy Examining Board of Canada, Suite 603, 123 Edward Street, Toronto, Ontario, M5G 1E2.

The regulations governing the practice of Pharmacy in the Province of Alberta are set forth in the Alberta Pharmaceutical Profession Act.

152 Faculty Regulations

152.1 Admission

The admission requirements of the Faculty of Pharmacy and Pharmaceutical Sciences are set out in §13.2 and §13.4.13 of the University Calendar.

In order to fulfill admission requirements the candidates must include in their pre-professional program the following courses or their equivalents:

Chemistry 100 or 104 or 204 (6 units of course weight)
Chemistry 160 or 260 (6 units of course weight)
English 110 (6 units of course weight)
Mathematics 113 or 114 (3 units of course weight)
Statistics 237 or 141 (3 units of course weight)
Microbiology 193 (3 units of course weight)
Elective (3 units of course weight)*

*Students who register in the Faculty of Science in order to complete the pre-Pharmacy Program must choose this elective from among junior courses titled Biology, Botany, Entomology, Genetics, Geography, Geology, Psychology, or Zoology in order to meet Faculty of Science requirements.

Applicants who having sequential High School background courses in Chemistry, English, Mathematics,

and Biology will best be prepared to succeed in the pre-Pharmacy program.

Students presenting a course other than MICRB 193 or its equivalent will be considered for admission and if successful will be required to take Microbiology in place of the option in the Second Year of the Pharmacy program.

Prospective students must submit a letter with their application for admission, in which their career goals, knowledge of the profession, related experience, and reasons for seeking admission to the Faculty of Pharmacy and Pharmaceutical Sciences are set forth.

Admission is based on performance in the specified pre-professional coursework and the candidate's overall academic record. Every effort will be made to accept all academically qualified applicants from other faculties or from other universities or postsecondary institutions. The pre-professional program may be completed through full- or part-time study, although preference will be given to candidates who have undertaken additional university coursework or a program that has included a year of full-time study (i.e. 30 units of course weight). Since the number of persons applying is currently in excess of the number that can be accommodated due to limitations of space and other facilities, priority is given to students who are Canadian citizens or permanent residents (landed Immigrants) and who are residents of Alberta. A limited number of highly qualified students who reside in other parts of Canada are also accepted annually, as are a smaller number of highly qualified foreign (student authorization) applicants.

Upon notification of acceptance, successful applicants will be required to confirm their intention to register by submitting a non-refundable $50.00 deposit within a specified time. The deposit will be credited toward payment of tuition upon completion of registration.

English Language Proficiency

See §13.2.2 of this Calendar.

Aboriginal Applicants

In addition to the regular quota positions, up to one additional position per year is available in the BSc Pharmacy program for a qualified student of aboriginal ancestry within the meaning of the Constitution Act, 1982, Part II, Section 35(2).

152.2 Academic Standing

Academic Performance is normally measured by Grade Point Average (GPA)* attained during a winter session. In this determination, grades of W are ignored throughout, whereas grades of WF are considered to be grades of 1. Grades of courses completed during Intersession or grades in courses accepted for transfer credit are not included in the calculation of the GPA for measuring academic performance.

Determination of each student's academic performance will normally occur after the end of the regular academic year, on the basis of the work attempted during that year.

Promotion of the student from year to year is contingent upon satisfactory academic performance.

Except for students admitted prior to September 1989, progression in the program shall be year by year and not by courses completed. Accordingly, all students in a particular year of the program should be registered in the same five courses in each term. Students will not be permitted to register in any required courses from a particular year of the program until they have satisfactorily completed all of the required courses from the previous year of the program. For students admitted prior to September 1989, academic standing regulations are contained in the Calendar for the year the student entered the Pharmacy program.

The GPA, as determined above, places the student in one of the following categories of academic performance:

Satisfactory performance is defined as that which yields a Grade Point Average of 5.0 or greater provided that no course is failed.

Conditional performance is defined as that which yields a Grade Point Average of 5.0 or greater but includes one or more failed courses.

Probationary performance is defined as that which yields a Grade Point Average of less than 5.0, but not less than 4.5, with or without failed courses.

Unsatisfactory performance is defined as that which yields a Grade Point Average of less than 4.5 or less than 5.0 for students in a probationary year.

Promotion to the next year of the program requires the achievement of **satisfactory performance**. Promotion will be awarded to **conditional performance** students only after they have achieved a passing grade in the failed course or courses.

Probationary Year. Repeat of the year in question is required of all probationary performance students. During this "probationary year" the student must repeat all core courses in which they achieved a grade of less than 5. Additional "approved" courses may be included to make up a normal course load, entirely at the discretion of the student. To clear probation and qualify for promotion, a student must pass all of the courses he or she was required to repeat and attain a GPA of at least 5.0 in these reuqired courses.

Required to withdraw. Students who achieve **unsatisfactory performance** or fail to clear probation will be required to withdraw from the program.

(1) **Reexamination:**

a. Students may be permitted a reexamination at the discretion of the Pharmacy Faculty Council, provided that:

1) The student's overall GPA for the year is 5.0 or greater.

2) The weight of the final examination is 40% or higher.

3) The student received a grade of 3 in the course.

4) The instructor provides a positive recommendation. Such recommendation will be given in those instances where a student's performance throughout the year was good, but extenuating circumstances led to a poor performance in the final examination.

b. If a reexamination is approved, the following policies apply:

1) The reexamination will have the same percentage value as the original final examination.

2) Students are permitted only one reexamination per academic year.

c. Students requesting a reexamination must follow the procedures detailed in §16.5.4 of this Calendar.

First Class Standing is awarded to students who achieve a Grade Point Average of at least 7.5 during a winter session, provided they have taken 30 units of course weight in that session.

The notation "With Distinction" is inscribed on the permanent record and graduate parchment if the candidates have obtained a Grade Point Average of 7.5 or higher, averaged over the last two years of their program.

$$\text{*GPA} = \frac{\text{sum of (grade x units of course weight)}}{\text{sum of units of course weight}}$$

Appeals and Grievances: Decisions on academic standing are made by the Council of the Faculty. Appeals may be made to the Academic Appeals Committee. Enquiries concerning standing in individual courses should be made to the professor in charge of the course. If the issue is still not resolved the student may report the matter to the Associate Dean for enquiry. See §16.8 (Appeals and Grievances) of this Calendar for further information.

The Faculty's regulations governing academic appeals and grade appeals may be obtained in the Dean's Office.

153 Programs of Study

153.1 The Degree of BSc in Pharmacy

153.1.1 General Information

The first degree program in Pharmacy is four years in length.

The courses to be taken in the first three years of the program are fixed and are considered basic to the training of all pharmacists. The fourth year has two required courses to round out the core program. The remainder of the fourth year course load allows for some degree of specialization.

153.1.2 Program of Courses

	first term hours	second term hours
First Year		
ANAT 200 (Human Morphology)	—	3-0-0
BIOCH 301 (General Biochemistry)	3-0-0	3-0-0
PHARM 302 (Introduction to the Profession of Pharmacy)	3-4s-0	—
PHARM 303 (Pharmacy Dispensing Procedures & Pharmaceutical Calculations)	—	3-0-3
PHARM 320 (Introduction to Medicinal Chemistry)	3-0-0	3-0-0
PHARM 325 (Introduction to Quantitative Pharmaceutical Analysis)	3-0-3	—
PHYSL 352 (Human Physiology)	3-0-0	3-0-0
	15-4s-3	15-0-3
Second Year		
PMCOL 431 (Pharmacology)	3-0-0	3-0-0
PHARM 340 (Pharmacy Administration)	—	3-2s-0
PHARM 352 (Jurisprudence and Ethics)	3-1s-3	—
PHARM 360 (Pharmaceutics)	3-0-3	3-0-3
PHARM 370 (Medicinal Chemistry)	3-0-0	3-0-0
PHARM 380 (Introduction to Disease Processes)	3-0-0	—
OPTION*	—	3-0-0
	15-1s-6	15-2s-3
Third Year		
PHARM 402 (Monitoring Drug Therapy Based on Patient Interviews, Patient Counselling and Drug Information)	—	3-0-3
PHARM 403 (Toxicity of Drugs and Related Products)	—	3-3s-0
PHARM 404 (Clinical Pharmacy)	—	3-0-0
PHARM 405 (Introduction to Institutional Practice and Patient Counselling with the Emphasis on Non-Prescription Drugs)	3-1s-3	—
PHARM 415 (Biopharmaceutics and Pharmacokinetics)	3-0-0	—
PHARM 431 (Therapeutics)	3-0-0	3-0-0
PHARM 432 (Antimicrobial Drugs)	3-0-0	—
PHARM 443 (Radiopharmacy I)	—	3-0-0
OPTION*	3-0-0	—
	15-1s-3	15-3s-3
Fourth Year		
(Student will be off campus in either the First or Second Term. Course work will be completed in the opposite term.)		
PHARM 456 (Clinical Pharmacy Rotations)	12 weeks	or 12 weeks
PHARM 457 (Contemporary Issues in Pharmacy)	1-0-0	or 1-0-0
Specialization Elective**	3-0-0	or 3-0-0
Specialization Elective**	3-0-0	or 3-0-0
Specialization Elective**	3-0-0	or 3-0-0
Option*	3-0-0	or 3-0-0
Option*	3-0-0	or 3-0-0
	16-0-0	16-0-0

***Options**

Options normally shall be selected from courses offered outside of the Faculty of Pharmacy and Pharmaceutical Sciences. These courses allow students to pursue areas of personal interest and promote a liberal education. Students wishing to further develop their intended pattern of specialization may wish to select options from the list of pattern-related options provided by the Faculty of Pharmaceutical Sciences.

Note: Only one junior course from each subject area is permitted.

Junior courses are those numbered 199 or lower.

**Specialization electives are available as follows:

(1) **First Term**: PHARM 458, 460, 473, 476, 489, 494, 498, 561, 565, 570, 575, 586, 593.

(2) **Second Term**: PHARM 460, 481, 484, 489, 496, 498.

It may be necessary to limit enrollment in certain specialization electives.

153.2 Graduate Study

Students may undertake graduate study in pharmacy leading to the degree of MPharm, MSc, or PhD. Any students contemplating such work should discuss their program with the Dean of the Faculty of Pharmacy and Pharmaceutical Sciences. They should also familiarize

themselves with the admission requirements, regulations, and procedures laid down by the Faculty of Graduate Studies and Research. These may be found in §204.61 of this Calendar.

The Degree of MPharm

A two-year program combining academic course work, professional experience, and research investigation leading to the degree of Master of Pharmacy in Clinical Pharmacy, is offered to acceptable students holding a BSc degree in Pharmacy. The first academic term is devoted primarily to course work in the biological and health sciences. The professional portion of the program consists of research and study in a professional environment leading to the submission of an acceptable project.

The Degree of MSc and PhD

The Faculty of Pharmacy and Pharmaceutical Sciences offers programs leading to the Master of Science and Doctor of Philosophy degrees and can accommodate a limited number of graduate students in modern well-equipped laboratories.

Research may be undertaken in fields such as Pharmaceutics, Biopharmaceutics, Physical Pharmacy, Bionucleonics, Radiopharmacy, Medicinal Chemistry, Pharmaceutical Chemistry, Drug Analysis, Drug Metabolism, Microbiology, Pharmacology, Toxicology, and Neurochemistry.

Individuals with previous degrees in such fields as Pharmacy, Biology, Microbiology, Biochemistry, Pharmacology, or Chemistry will be considered.

Financial assistance is available from The Medical Research Council of Canada, The Alberta Heritage Foundation for Medical Research, and from other sources.

Prospective candidates should consult with the Dean regarding the requirements.

Students planning to begin graduate work should make application for admission to the Faculty of Graduate Studies and Research. Applications should be addressed to the Dean, Faculty of Graduate Studies and Research.

154 Details of Courses

154.1 General Information

Courses open to students in the Faculty of Pharmacy and Pharmaceutical Sciences are listed here in alphabetical order, whether they are offered by that faculty or by another faculty.

Each course is designated by its computer abbreviation and a number.

Following the title of the course is the symbol "★" standing for "units of course weight" and a number indicating the weight of the course as used in computing grade-point averages. An ordinary full-session course is weighted 6. A single-term course is normally weighted 3. Some honors and graduate courses involving research may vary in weight according to the length and difficulty of the research project. Some courses are offered for credit only, and carry no weight.

The next three figures, enclosed in parentheses, indicate the hours of instruction required by the course in a week. The format is as follows: the first position indicates lecture hours; the second position indicates seminar hours (s), demonstration (d), clinic (c), or lecture-lab (L); and the third position indicates laboratory hours. The expression "3/2" means three hours of instruction every second week. The hours of instruction for a full-session course are the same in both terms unless otherwise indicated. If the course is a single-term course, the term in which it may be offered is mentioned before the hours of instruction.

The appearance of a course description in the following list does not constitute any guarantee that the course will actually be offered in the forthcoming session. Information as to which courses will be offered, the names of the instructors, and all further details must be sought from the department concerned.

Physical Requirements for University Courses

The University has a commitment to the education of all academically qualified students and special services are frequently provided on campus to assist disabled students.

Nevertheless, some courses make certain unavoidable demands on students, with respect to the possession of a certain level of physical skill or ability, if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the Department concerned and the Disabled Student Services Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for all off-campus courses, instructors may be obliged to refuse registration in such courses.

154.2 Anatomy

ANAT 200 Human Morphology
★3 (second term, 3-0-0). An overview of human structure. Emphasis is placed on the systems of the body and their cooperative role in normal function. A lecture course open to Pharmacy students only.

154.3 Biochemistry

BIOCH 301 General Biochemistry
★6 (3-0-0). Structure and chemistry of the cell; the chemistry and metabolism of carbohydrates, lipids, proteins and nucleic acids; the molecular biology of enzymes and genes as related to the functioning of the living cell. Prerequisite: CHEM 100 or 104 or 204; and CHEM 160 or 260. Those for whom this course is an option require consent of Department.

154.4 Pharmacology

PMCOL 431 General Pharmacology
★6 (3-0-0). The pharmacological actions of drugs selected for their physiological and clinical significance. Basic pharmacological principles are applied to representative clinically important drugs having their primary actions on various organ systems of the body. The course includes a study of chemotherapeutic agents used in the treatment of infections and neoplasia, and an introduction to management of poisoning cases. Restricted to students in the Faculty of Pharmacy.

154.5 Pharmacy

154.5.1 Undergraduate Courses

PHARM 302 Introduction to the Profession of Pharmacy
★3 (first term, 3-4s-0). Introduction to the Canadian Health Care System, the pharmacist's role and the needs of patients. Information and use of some non-prescription drugs, medical surgical products and basic emergency treatment. Development of verbal communication skills. (Restricted to Pharmacy students).

PHARM 303 Pharmacy Dispensing Procedures and Pharmaceutical Calculations
★3 (second term, 3-0-3). An introduction to the technical aspects of dispensing, pharmaceutical calculations, dosage forms and drug procurement. Development of basic patient medication counselling skills. Exposure to the need for accuracy and accountability as a professional responsibility. Prerequisite: PHARM 302. (Restricted to Pharmacy students).

PHARM 320 Introduction to Medicinal Chemistry
★6 (3-0-0). The development of drugs. Physicochemical properties and biologic activity. The relationship of these properties to the absorption, distribution and elimination of drugs. The metabolism of drugs, enzymes, pathways, mechanisms and substrates. Drug receptor interactions and receptor site theory. Prerequisite: CHEM 100 and CHEM 160. Corequisite: PHYSL 352. (Restricted to Pharmacy students.)

PHARM 325 Introduction to Quantitative Pharmaceutical Analysis
★3 (first term, 3-0-3). Chemical methods of quantitative analysis. The laboratory exercises consist of both instrumental and non-instrumental pharmacopoeial techniques that are widely employed in the analysis of pharmaceuticals. Prerequisite: CHEM 100 and 160. (Restricted to Pharmacy students.)

PHARM 340 Pharmacy Administration
★3 (second term, 3-2s-0). An introduction to the elements of pharmacy administration consisting of: management principles, pharmaceutical marketing, and practice management. Provides the student with an understanding of the economic, political, and professional environment of the profession of pharmacy. (Restricted to Pharmacy students.)

PHARM 352 Jurisprudence and Ethics
★3 (first term, 3-1s-3). A study of the laws governing the practice of pharmacy, an understanding of the legal rights and responsibilities of the pharmacist and a practical application of these laws. Ethical theories and principles and their application in pharmacy practice. Development of verbal communication skills with emphasis on pharmacist-patient, and pharmacist-other health professional relationships. A study of the psychological aspects of illness. Prerequisite: PHARM 303. (Restricted to Pharmacy students).

PHARM 360 Pharmaceutics
★6 (3-0-3). Principles of pharmaceutical dosage forms. Factors affecting the physical and chemical behavior of drug products. Rationale underlying the formulation and compounding techniques of pharmaceutical preparations. Prerequisite: PHARM 303 and MATH 113. (Restricted to Pharmacy students).

PHARM 370 Medicinal Chemistry
★6 (3-0-0). The study of organic medicinal substances. The design and synthesis, physical-chemical properties, mechanism of action, metabolism and structure-activity relationships of drug classes are discussed. Prerequisite: PHARM 320.

PHARM 380 Introduction to Disease Processes
★3 (first term, 3-0-0). The nature of disease, causes, processes, effects and associated alterations in structure and function. Prerequisite or corequisite: ANAT 200, PHYSL 352. (Restricted to Pharmacy students).

PHARM 402 Monitoring Drug Therapy Based on Patient Interviews, Patient Counselling and Drug Information
★3 (second term, 3-0-3). Lectures and laboratory exercises to develop the student's skills in clinical pharmacy practice relating to patient interviewing, dispensing, counselling and monitoring drug therapy. Prerequisite: PHARM 405, 415, and PMCOL 431. Corequisite: PHARM 431. (Restricted to Pharmacy students).

PHARM 403 Toxicology of Drugs and Related Products
★3 (second term, 3-3s-0). Topics discussed include poisoning and its emergency treatment; toxicity of analgesics, antibiotics, iron, common drugs and household products, food additives; CNS and PNS toxicity; nephrotoxicity and hepatotoxicity; toxicity to the ear; ocular and epidermal toxicity; toxicity of pesticides and herbicides; neonatal and geriatric toxicology; carcinogenicity and teratology; porphyrias, blood dyscrasias; placental transfer of drugs; drugs in milk. Prerequisite: PHARM 415. Corequisite: PHARM 402 and 431. (Restricted to Pharmacy students).

PHARM 404 Clinical Pharmacy
★3 (second term, 3-0-0). Lecture/discussion sessions are used to demonstrate clinical pharmacy responsibilities in a selected number of areas. Experience will be gained in using a case history, patient management approach to clinical problem solving. Topics of discussion include clinical laboratory tests, applied clinical pharmacokinetics, advanced OTCs, drug information, drug substance abuse, and clinical drug interactions. Corequisite: PHARM 431. (Restricted to Pharmacy students).

PHARM 405 Introduction to Institutional Practice and Patient Counselling with the Emphasis on Nonprescription Drugs
★3 (first term, 3-1s-3). An understanding of the drug distribution system in hospitals. An evaluation of drug literature. Introduction to the workshop format and patient interviewing. An understanding of the role of self-medication in health care. An introduction to nonprescription drug products and the Drug Caution Code. Prerequisite: PHARM 352. (Restricted to Pharmacy students).

PHARM 415 Biopharmaceutics and Pharmacokinetics
★3 (first term, 3-0-0). Application of biopharmaceutics and pharmacokinetics to patient care and drug therapy. Clinical pharmacokinetics of selected classes of drugs. Prerequisite: PHARM 320 and PHARM 360. Corequisite: PHARM 431.

PHARM 431 Therapeutics
★6 (3-0-0). Integrated lectures and seminars on the pharmacological action of drugs and the therapeutics of common diseases. Basic pharmacological principles; mechanisms of actions of drugs; rationale of drug therapy and problems associated with the use of drugs in the disease state; the role of the pharmacist in therapeutics. Prerequisite: PMCOL 431. (Restricted to Pharmacy students).

PHARM 432 Antimicrobial Drugs
★3 (first term, 3-0-0). Current chemotherapeutic drugs of choice for the treatment of fungal and bacterial disease. Each drug is discussed under the following headings: structure and relation to activity, mechanism of action, antimicrobial spectrum, development of microbial resistance, absorption, distribution, metabolism, excretion, toxicity, therapeutic use, instructions to patient, and formulations available in Canada. Prerequisite: MICRB 193. (Restricted to Pharmacy students.)

PHARM 443 Radiopharmaceutical Sciences I
★3 (second term, 3-0-0). Basic principles involving the application of radiation and radioactive compounds in

medical diagnosis, therapy and industry. Rationale for utility, preparation and quality control of radiopharmaceuticals. Biologic effects of various radiations. Prerequisite: ANAT 200, PHYSL 352, BIOCH 301.

PHARM 456 Clinical Pharmacy Rotations
★15 (either term, 12 weeks of clinical experience). The student will be expected to demonstrate professional and technical competencies in a variety of practice situations, including counselling patients, obtaining medication histories, providing drug information, monitoring and evaluating drug therapy, adverse drug reaction assessment and reporting, and therapeutic drug monitoring. Prerequisite: PHARM 403 and 431, PMCOL 431. (Restricted to Pharmacy students).

PHARM 457 Contemporary Issues in Pharmacy
★2 (either term, 1-0-0). Historical developments, impact, and significance of developments in the field of pharmacy. (Restricted to Pharmacy students).

PHARM 458 Hospital Pharmacy
★3 (first term, 3-0-0). Current literature analysis and presentation of modern concepts in drug distribution, drug information systems, application of data processing to decentralized pharmacy services and administrative principles peculiar to institutional pharmacy. (Restricted to Pharmacy students).

PHARM 460 Sterile Products
★3 (either term, 3-0-3). This course is designed as a comprehensive education in sterile pharmaceutical products that may be prepared and/or dispensed by a hospital pharmacy department. Specific distribution systems and administration techniques will also be discussed. In addition to didactic education, practical experience will be provided in the laboratory section of the course. Prerequisite: PHARM 360. (Restricted to Pharmacy students).

PHARM 473 Selected Topics in Medicinal Chemistry
★3 (either term, variable). Recent developments and future trends in selected areas of medicinal chemistry. Prerequisite: PHARM 370 and 431, PMCOL 431 or consent of the Faculty.

PHARM 476 Quantitative Pharmaceutical Analysis
★3 (first term, 2-0-4). Clinical chemistry, drug and drug metabolite analysis in biological systems and their application to therapeutic drug monitoring and enzymatic techniques currently used in the clinical determination of drugs and metabolites in biologic media. Laboratory examples emphasize recent methods in the clinical and pharmaceutical sciences. Prerequisite: PHARM 325 or consent of the Faculty.

PHARM 481 Veterinary Pharmacology
★3 (second term, variable). A course in the commonly used veterinary biological and pharmaceutical preparations; general sanitary and management procedures for the prevention and control of livestock diseases; a brief review of infectious diseases and animal parasites.

PHARM 484 Biological Products
★3 (either term, 3-0-0). Current principles of immunization — recommended immunization schedules, vaccines against viral, and bacterial diseases of concern to Canadians; immunization and health considerations for health care professionals, international travellers and day care attendees; selected topics of current interest — time permitting. Prerequisite: MICRB 193 or consent of the Faculty.

PHARM 489 Seminars in Therapeutics and Professional Practice
★3 (either term, variable). A seminar course for fourth year pharmacy students covering selected topics in therapeutics, pharmacokinetics and clinical pharmacy. Prerequisite: PHARM 403, 415, and 431. (Restricted to Pharmacy students).

PHARM 494 Pharmacy Management: Selected Topics
★3 (either term, variable). Continuation of PHARM 403 with emphasis on financial management and the management of human resources. Projects on pharmacy operations. Prerequisite: PHARM 403.

PHARM 496 Professional Management: Community
★3 (second term, 3-0-0). Continuation of PHARM 403 with emphasis on financial management and the management of human resources. Projects on pharmacy operations. Prerequisite: PHARM 403.

PHARM 498 Pharmaceutical Research
★3 (either term, 0-0-4). Investigational work under the direction of a member of the Faculty. Preparation of a written report. Prerequisite: Consent of the Faculty and the approval of a Faculty member to direct the research. This course may be taken during the Intersession by special arrangement. (Restricted to Pharmacy students.)

154.5.2 Graduate Courses

A list of Graduate Courses can be found in the Graduate Studies and Research Section of this Calendar.

154.6 Physiology

PHYSL 352 Human Physiology
★6 (3-0-0;3-0-3). An introductory course on mammalian and human physiology. Available only to students in the Faculties of Pharmacy and Home Economics.

154.7 Pharmacy Courses

(for students who entered the program in September of 1988 or earlier)

For continuing students who entered the Pharmacy program in September of 1988 or earlier, the program of courses will be that provided for in the 1988-89 Calendar. Accordingly, the following Fourth Year undergraduate courses will be available in 1991-92.

154.7.1 Undergraduate Courses

PHARM 430 Pharmaceutical Toxicology
★3 (first term, 3-0-0). Topics considered include poisoning and its emergency treatment; toxicity of common drugs, household products, vitamins and food additives; toxicology of antimicrobial therapy, undesirable physiological and biochemical effects of commonly used drugs, pathological changes resulting from drug toxicity and mechanisms of toxic reactions, genetics and toxicology. Prerequisite: PMCOL 431 (Restricted to Pharmacy students).

PHARM 450 Introduction to Radiopharmacy
★3 (first term, 3-0-2). Basic principles of radioactivity and utility of radiopharmaceuticals for diagnosis and therapy. Fundamental design and operation of various radiation detection instruments as pertaining to radiopharmacy and nuclear medicine. Laboratory: Application of radiation detection to radiopharmacy. Prerequisite: Consent of the Faculty.

PHARM 454 Isotopes in Nuclear Medicine
★3 (second term, 5-0-0, second six weeks of term). Application of radionuclides in medical diagnosis and treatment; control of radionuclides in the hospital; radiation hazards. Prerequisite: PHARM 450 or PHARM 601 or consent of the Faculty.

PHARM 461 Sterile Products I
★3 (first term, 3-0-0). Lecture portion only of PHARM 460. Prerequisite: PHARM 315. Restricted to Pharmacy students.

PHARM 466 Clinical Pharmacy
★3 (second term, 6-0-0, either first 6 weeks or second 6 weeks of the term). Lecture/discussion sessions are used to demonstrate clinical pharmacy responsibilities in a selected number of areas. Experience will be gained in using a case history, patient management approach to clinical problem solving. Topics of discussion include clinical laboratory tests, applied clinical pharmacokinetics, advanced OTC's, drug information, drug substance abuse, and clinical drug interactions. Prerequisite: PHARM 487 and 488. (Restricted to Pharmacy students).

PHARM 488 Pharmaceutical Therapeutics II
★3 (first term, 3-0-0). Lectures on common diseases and their treatment. Rational of drug therapy and problems associated with the use of drugs in disease state. The role of the pharmacist in therapeutics. Areas covered include the therapy of respiratory, neurological, rheumatic, malignant, and infectious diseases. Prerequisite: PMCOL 431.

PHARM 490 Contemporary Issues in Pharmacy
★2 (1-0-0 in the first term; 1-0-0 in either first six weeks or second six weeks of the second term). Historical developments, impact, and significance of developments in the field of pharmacy. (Restricted to Pharmacy students).

PHARM 491 Professional Practice VII
★3 (first term, 2-0-0). The use and application of a problem oriented approach to drug therapy and patient care. Familiarity will be gained with this approach by means of presentation of clinical case studies by the students with supervision and constructive feedback from the instructors. Prerequisite: PHARM 401, 487 and PMCOL 431. Corequisite: PHARM 488. Restricted to Pharmacy students.

PHARM 492 Pharmacy Management I
★3 (first term, 3-0-0). Management concepts and their application to pharmacy. The environment of pharmacy practice stressing the interaction of pharmacy with the economic system and government programs. Marketing of pharmaceuticals and pharmaceutical services. (Restricted to Pharmacy students).

PHARM 495 Professional Practice VIII
★3 (second term, six weeks of clinical experience). Clinical experience which will provide the student with the opportunity to practice clinical pharmacy in several settings. The student will be expected to demonstrate professional and technical competency in a variety of practice situations, including patient counselling, obtaining medication histories, provision of drug information, adverse drug reaction assessment and reporting, applied pharmacokinetics etc. Prerequisite: PHARM 491. Restricted to Pharmacy students.

PHARM 499 Pharmaceutical Research
★4 (0-0-4). Investigational work under the direction of a member of the faculty. Preparation of a written report. Prerequisite: Consent of the Faculty and the approval of a Faculty member to direct the research. This course may be taken during the Intersessions by special arrangement. Credit cannot be obtained for both PHARM 498 and PHARM 499. (Restricted to Pharmacy students.)

154.7.2 Graduate Courses

A list of Graduate Courses can be found in the Graduate Studies and Research Section of this Calendar.

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Physical Education and Recreation

Faculty of Physical Education and Recreation

161 Introductory

161.1 Members of the Faculty

161.1.1 Officers of the Faculty

Professor and Dean
EJ Watkinson, PhD

Professor and Associate Dean (Academic)
ML Padfield, MA

Professor and Associate Dean (Planning)
LM Wankel, PhD

Assistant Dean
WE Tatarchuk, MPE

161.1.2 Physical Education and Sport Studies

Professor and Chair
HA Quinney, PhD

Professors
RB Alderman, EdD
M Ellis, PhD
RG Glassford, PhD
MA Hall, PhD
PL Lindsay, PhD
RBJ Macnab, PhD
EB Mitchelson, PhD
HA Quinney, PhD
G Redmond, PhD
HA Scott, PhD
M Singh, PhD
T Slack, PhD
GJ Smith, PhD
RD Steadward, PhD
EJ Watkinson, PhD
RB Wilberg, PhD
E Zemrau, BSc

Associate Professors
PR Conger, MA
JG Donlevy, MA (Joint Appointment)
P Gervais, PhD
J Hogg, PhD (Joint Appointment)
AB Nielsen, PhD
SJ O'Brien Cousins, MPE
ML Padfield, MA
SR Petersen, PhD
LD Shogan, PhD (Joint Appointment)
FA Tally, MSc
LP Thompson, PhD

Assistant Professors
J Bobet, PhD
M Bouffard, PhD

Honorary Professors
M Cottle, PhD
DC Reid, MD
CT Kappagoda, MD, PhD

Administrative Officer
PD Bates, MEd

161.1.3 Recreation and Leisure Studies

Professor and Chair
GS Swinnerton, PhD

Professors
TL Burton, PhD
RP Heron, PhD
SA Mohsen, PhD
GS Swinnerton, PhD
LM Wankel, PhD (Joint Appointment)

Associate Professors
V Blakely, MA
J James, PhD
D Shogan, PhD (Joint Appointment)
DJ Whitson, PhD

Administrative Officers
DR Mitsui, MA (Practicum Supervisor)
L Jenkins, BPE, BEd

161.1.4 Athletics

Administrative Officer and Chair
DHP Schulha, MSc

Associate Professors
JG Donlevy, MA (Joint Appointment)
J Hogg, PhD (Joint Appointment)
D Horwood, MA
DB Syrotuik, PhD

Assistant Professor
DE Hilko, BEd

Administrative Officers
AC Burgess, PhD
HSD Hoyles, BPE
NM Jette Chisholm, MSc, BSc (PT), CAT(C)
I Reade, MSc

Coach/Instructors
P Baudin, MSc
T David, BPE
WR Moores, BPE
S Smith, BEd

Marketing Director
DM Gingera, BPE

161.1.5 Division of Support Services

Director
JB Barry, MA

Assistant Director
C Forre Laskosky, BA (Rec Admin)

Administrative Officer
WE Montgomery, PhD

161.1.6 Additional Members of Faculty Council

President and Vice-Chancellor
P Davenport, PhD

Professors
L Beauchamp, PhD (Secondary Education)
CM Bourassa, PhD (Psychology)
DJ Moss, PhD (History)
RE Rossall, PhD (Medicine)

Assistant Professors
VE Baracos, PhD (Animal Science)
H Clarkson, PhD (Physical Therapy)

Registrar of the University
BJ Silzer, MEd

161.2 General Information

The first physical education courses for regular credit were offered by the Faculty of Education in 1945. This led, in the late 1940's, to a Bachelor of Education in Physical Education.

A School of Physical Education was established by the General Faculties Council in 1954 and the degree of Bachelor of Physical Education was credited on April 1, 1964. The School became the Faculty of Physical Education and in 1976 the name was changed to the Faculty of Physical Education and Recreation.

Since 1963 the Faculty has also offered a four-year program leading to the degree of Bachelor of Arts in Recreation Administration.

In addition to these two programs, the Faculty provides a wide selection of courses for students in the Faculty of Education, organizes and supervises intramural programs, and acts in an advisery capacity for the intercollegiate athletic programs.

Students holding the degree of BPE or its equivalent may undertake graduate study in physical education leading to the degrees of Master of Arts, Master of Science and Doctor of Philosophy. Students holding the degree of BA in Recreation Administration or equivalent may undertake graduate study leading to the degree of Master of Arts (Recreation). The calendar of the Faculty of Graduate Studies and Research should be consulted for further details.

The Faculty structure was revised effective July 1, 1983 into three Departments and one Division: the Department of Physical Education and Sport Studies; the Department of Recreation and Leisure Studies; the Department of Athletic Services (changed to Department of Athletics in 1986); and the Division of Support Services.

Teacher Education: Students wishing to qualify for teaching positions have the option of completing the Bachelor of Physical Education degree and then taking teacher certification or they may complete the Bachelor of Education degree with a major in Physical Education. The major in Physical Education is offered to students in the secondary route only. Elementary route students should consult their advisers in building an area of concentration in Physical Education. The Bachelor of Physical Education degree offers approximately forty percent more professional Physical Education courses but requires one and a half additional years for certification.

Campus Recreation Activities: The Department of Athletics, in the Faculty of Physical Education and Recreation, organizes and administers a comprehensive program of recreational activities for students, academic and non-academic staff, and their families.

The objectives of the Campus Recreation Program are: to offer as wide a range of recreational activities as possible for all people on campus; to provide, within a well organized setting, opportunities for physical exercise and an improved lifestyle for the campus population; to provide an atmosphere in which socialization will be maximized during and after participation in activities; to provide opportunities to learn how to participate in various activities and to improve skill levels in these activities if desired.

In order to meet these objectives the program has the following segments: men's, women's and co-recreational intramural activities; campus fitness and lifestyle programs; non-credit instruction; sports clubs; spring and summer recreation activities and special events.

Facilities include gymnasia, two swimming pools, outdoor playing fields, 14 squash and racquetball courts, a weight training room, an ice arena, a tennis centre, and the multipurpose Universiade Pavilion built for the World University Games in 1983.

Interuniversity Athletics: As a member of the Canada West University Athletic Association, the University provides opportunities for men and women to compete in interuniversity sports. Included in the activities for men are volleyball, basketball, gymnastics, hockey, wrestling, soccer, swimming, track and field and football. Women compete in track and field, basketball, volleyball, soccer, gymnastics, swimming and field hockey.

161.3 Clothing

Students are advised that the purchase of physical education wearing apparel must be completed prior to the start of activity classes.

Activity course dress requirement for first class: Students are expected to attend the first class of an activity course appropriately dressed for active participation. Information concerning dress for each activity course will be available through the Department of Physical Education and Sport Studies.

162 Faculty Regulations

162.1 Admission

162.1.1 General Information

Admission into all programs is on a quota basis due to the limitation on available resources. Although selec-

tion procedures vary with the degree program, in general the emphasis will be upon academic standing with preference being given to those applicants with the highest standing.

Admission requirements of the Faculty for individuals applying with matriculation standing are set out in §13.2 and §13.4.14 of this Calendar. Other regulations for admission to the BPE program are set out in §162.1.2 and for the BA program in Recreation Administration in §162.1.3.

Non-Matriculated Applicants: (Refer to §13.8.10 of this Calendar for details.)

English Language Proficiency: Refer to §13.2.2 of this Calendar for details.)

Residence Requirements: A student proceeding towards a first (bachelor's) degree is expected to complete at least half of the credits required through courses offered by the University of Alberta (either "on" or "off" campus in winter, Intersessions). Normally, at least half of these "University of Alberta" courses will be taken as the final courses in the program. Credits obtained by special assessment at the University of Alberta may be included in the count of courses used to satisfy the residency requirements. (See §13.9.5 - Credit by Special Assessment.)

162.1.2 BPE Degree Program

(1) Applications must be received by May 1. Applications received late will not be considered. Returning BPE students must apply by June.

(2) Entry to the BPE degree program occurs for September only.

(3) Documents must be received by June 15th or the application will not be considered. The documents include the following:

a. a completed questionnaire providing detailed information on their leadership and physical activity/sport background.

b. three letters of reference.

c. a medical report.

d. students may also be required to attend an interview.

(4) The principal factor in admission decisions will normally be the academic record. Decisions on the admission of students clustered around the cut-off mark in any given year will also be based on an interview, background information provided by the questionnaire, and the letters of reference.

(5) Students will be considered for admissions to a specified year of the program based on their progress within the degree structure:

a. **First Year Students:**

1) **Matriculation Applicants:** Students presenting matriculation results for admission to the BPE program must meet the requirements as published in §13.4.14.

2) **Transfer Student Applicants:** This category includes those students who have successfully completed fewer than 18 of the 24 units of course weight required in the first-year BPE program. To be considered for admission these students must present a minimum GPA of 5 or equivalent based on a minimum of 30 units of course weight of transferable credits. Possession of this minimum GPA does not guarantee admission to the program.

3) **Non-Matriculated Applicants:** Non-matriculated applicants will be considered for admission and must meet the requirements as published in §13.8.10. All non-matriculated applicants will be interviewed.

b. **Second Year Students - Transfer Student Applicants:** Transfer students from other post-secondary institutions must have successfully completed 18 of the 24 units of course weight required in the first-year BPE program with a GPA of at least 5. However, possession of this minimum GPA does not guarantee admission to the program.

c. **Third Year Students - Transfer Student Applicants:** To be considered as a third year student, transfer students must have successfully completed all first year BPE requirements. In addition, they must have a GPA of at least 5 on a minimum of 60 units of course weight. However, possession of this minimum GPA (5) does not guarantee admission to the program.

(6) The Admissions Committee determines the successful candidates and develops an alternate list. Accepted students must return an "Intention of Attendance" form so that students on the alternate list may be given the opportunity to attend the BPE degree program if spaces become available.

(7) Special and Visiting Students will not be included in the quota. Normally, only students who already hold a university degree will be admitted as Special Students.

162.1.3 BA (Recreation Administration)

Those students seeking entry to the BA (Recreation Administration) program must have completed a preprofessional year. Three options exist for meeting the preprofessional year requirement.

Option 1

Completion of one full year of university study (30 units of course weight) which must include:

(1) Introductory Sociology (SOC 100 recommended)

(2) Introductory Psychology (PSYCO 104 recommended)

(3) Introductory Political Science or Economics

(4) Introductory Philosophy (PHIL 130 recommended)

(5) Introductory Physical Geography (GEOG 130 recommended)

(6) Fifteen units of course weight in optional Arts and Science courses. (It is strongly recommended that an introductory English and/or History course be included. Prospective students are advised to review prerequisites for Pattern courses within the professional program when selecting these optional courses.)

(RLS 120: Introduction to Recreation and Leisure Studies, or RLS 401: Community Recreation, will be accepted as one of the five optional courses.)

Option 2

Completion of one full year of university study in the Faculty of Arts BA (AR 20) degree program at the University of Alberta or a recognized transfer program to the Faculty of Arts BA (AR 20) degree program. In order that students pursuing this option not be penalized in the event that their applications to the BA (Recreation Administration) program are rejected, these students will be advised to take the following program in Year 1 of the BA (AR 20) program in Arts:

First Term	Second Term
ENGL 101	ENGL 101
PHIL 140	PHIL 140
SOC 100	ECON 101
FREN 150 (or LOE)	FREN 150 (or LOE)
PSYCO 104	GEOG 130

Option 3

Completion of a two-year diploma in Recreation and Leisure Studies, or a related field, from an accredited community college. Such a diploma must include courses equivalent to those in the specified subjects for the preprofessional year as outlined under Option 1.

Admission Standards

In order to qualify for consideration for admission to the program, an applicant must have obtained a cumulative grade point average of 5.5 in the program of study for the preprofessional year, or its equivalent in the program of study offered as the basis for advanced standing for the preprofessional year.

The quota for the BA (Recreation Administration) Degree program requires that students be ranked according to their grade point average with the cutoff point varying from year to year but not dropping below the admission standard of 5.5 on the 9-point University of Alberta scale (or its equivalent from elsewhere). (The quota for Year 2, following the preprofessional year, is 80.)

Students who are admitted into Year 2 of the program after having successfully completed a preprofessional year and Year 1 at Red Deer College, must have completed the same course requirements and have met the same promotional standards as those that are required of students enrolled in Year 1 of the program at the University of Alberta. (The quota for Year 2 of the program following the preprofessional year and Year 1 at Red Deer college is 25.)

Application deadline for the BA (Recreation Administration) degree program is May 1.

Entry to the program occurs for September only.

162.2 Definitions

The following terms, definitions and abbreviations are used throughout this section of the calendar.

(1) **Unit of Course Weight:** A unit of course weight is an indication of the instructional credit assigned to a course and is designated by the ★ symbol after the course number and name. Units of course weight are used to form a part of the degree requirements and are also used in calculating a students Grade Point Average (GPA) and Quality Index (QI).

(2) **Full-Session:** The instructional period from September to April and is often referred to as the winter session.

(3) **Full-Session Course:** A full-session course means a single course with ★6 units of course weight.

(4) **Half-Session:** The instructional periods from September to December or January to April.

(5) **Half-Session Course:** A half-session course means a single course with ★3 units of course weight.

(6) **Normal Course Load:** A normal full academic course load is 30 units of course weight taken during the winter session. Note: In order to complete the BPE degree within the recommended 4-year period, students must take an average of 33 units of course weight each session.

(7) **Passing Grade:** No grade lower than 4 will be permitted in any course leading to the BPE or BA (Recreation Administration) degree programs.

(8) **Grade Point Average (GPA):** The Grade Point Average (GPA) is defined by the following formula:

$$GPA = \frac{\text{sum of (grade x units of course weight)}}{\text{sum of units of course weight}}$$

The GPA refers to the sessional average and the following are the rules for its computation:

a. The GPA for any session shall be based on the final grades in all courses taken during that session, including half-session courses repeated in the second term and courses extra to the degree program;

b. An alphabetical grade of ABF will be counted as a numeric grade of 1 in the computation of the common GPA;

c. An alphabetic grade of WF will be counted as a numeric grade of 1 in the computation of the common GPA;

d. Grades of Credit-No Credit and Pass-Fail will not be included in the computation of the common GPA;

e. The common GPA will be rounded to the nearest decimal place using standard rounding rules - this is, it will be rounded up with a value of 5 or greater in the first non-significant place and rounded down with a value of 4 or less in the first non-significant place.

(9) **Quality Index (QI):** The Quality Index (QI) is defined by the following formula:

$$QI = \frac{\text{sum of units of course weight passed}}{\text{sum of units of course weight attempted}} \times GPA$$

162.3 Academic Standing and Graduation

(1) To qualify for the BPE or BA (Recreation Administration) degree, a student must successfully complete all requirements including a GPA of at least 5.0 in the last two years of their program.

(2) First Class Standing in a given year shall be awarded to any undergraduate student who obtains a GPA of not less than 7.5 while enrolled in at least 30 units of course weight in that year. For the Faculty of Physical Education and Recreation a normal full academic course load is 30 units of course weight.

(3) **Degree with Distinction:** The "Degree with Distinction" will be awarded to students who obtain a GPA of 7.5 or higher on the last 60 units of course weight in the BA (Recreation Administration) degree program or on the last 66 units of course weight in the BPE degree program.

4) **Grades in 100-Level Activity (PAC) Courses:** Evaluation will be based solely on performance and will be defined in advance through skill competencies for each activity. Grades of 4 to 9 will be defined by increasingly more skillful performance with those competencies required for a grade of 4 reflecting a performance adequate to proceed to a PAC 300- or 400-level course.

5) **Academic Status:**

a. **Category A Status:** QI of 4.0 and GPA of 5.0 or more.

b. **Category M Status:** QI of 4.0 and over with a GPA below 5.0. Student would remain in the Faculty, would receive a letter of warning from the Department, and would be monitored in terms of academic progress. Category M (marginal status) on two occasions (not necessarily consecutively) would become Category B.

c. **Category B Status:** QI of 3.0 to 3.9. Student placed on probation, would receive a letter of warning from the Office of the Dean and be monitored in terms of academic progress.

d. **Category C Status:** QI less than 3.0. Student would be required to withdraw. Normally readmission not be considered until after one academic year. At that time, readmission would be based on individual merit and will not be automatic. Category M followed by Category B or Category B followed by Category M (these not necessarily consecutively) will also lead to Category C Status.

e. **Probation:** Probationary status will be assigned to all Category M, Category B, or returning Category C students. Students under probationary standing must demonstrate the ability to meet graduation standards. They must:

1) normally register as full time students and achieve a QI of at least 4.0 and a minimum GPA of 5.0 on 30 units of course weight or a minimum GPA of 5.5 on 24 units of course weight.
2) pass all courses (minimum grade of 4).

Failure to meet these standards will result in the assignment of Category C status.

Category B students will have probationary status lifted after successful completion of these requirements over a full session.

Readmitted Category C students will remain on probationary status each session for the remainder of their degree program. Readmitted Category C students **who fail to meet probationary standards,** will not be readmitted to the Faculty of Physical Education and Recreation.

6) **Reexaminations**

a. A student may be permitted a reexamination only under extenuating personal or other circumstances and at the discretion of the Dean, provided that:

1) The student's GPA is 5.0 or greater in the courses for that term.
2) The weight of the final examination is 40% or higher.
3) The student has received a grade in the course of 3 or greater. The intent here is that students who are able to establish a special circumstance and who have a reasonable chance to achieve a passing grade on the course be allowed to undertake a reexamination. The desire to achieve an improved grade in and of itself is not a special circumstance and, therefore, it is not the intent that the reexamination process be used for this purpose.
4) The Chair of the Department, in consultation with the course instructor, states that the student has a reasonable probability of success in the reexamination.

b. If a reexamination is approved the following policies apply:

1) The reexamination will have the same percentage value as the original final examination.
2) The reexamination mark replaces the original examination mark in determining the final grade in the course.
3) Students are normally permitted only two reexaminations in half-courses during the program.

c. Deadlines for applying for a reexamination will normally be the following:

1) First-term courses: the last day in February.
2) Second-term or full-session courses: July 31.
3) Intersession, first-term course: August 31.
4) Intersession, second-term course: October 31.

d. Students requesting a reexamination must follow the procedures detailed in §16.5.4 of this Calendar.

162.3.1 Promotion Standards and Course Load Requirements for the BPE Degree Program

Full-time students enrolled in the BPE program will be promoted from year to year in the program based on the following guidelines:

(1) **Promotion from First to Second Year:** In order to be promoted from first to second year, students must maintain Category A status and successfully complete at least six of the eight required DANCE and PESS courses in the first year of the program. Students who are not promoted must repeat all Faculty of Physical Education and Recreation courses in which they received a grade of less than 5.0, and clear all first year deficiencies. Students repeating first year are not allowed to take any courses from the discipline core in Years 2, 3, or 4 during that repeated year.

(2) **Promotion from Second to Third Year:** In order to be promoted to third year, students must have successfully completed all first year requirements and have a GPA of at least 5.0 on a minimum of 60 units of course weight. Students with a GPA of less than 5.0 on 60 units of course weight will be placed on probation and during the subsequent year must repeat sufficient second-year courses to raise their GPA to 5.0 on a minimum of 60 units of course weight. Students repeating Year 2 will develop their program in consultation with Department staff.

(3) **Promotion from Third to Fourth Year:** In order to be promoted to fourth year in the program, students must be able to complete all requirements for graduation in time to convocate either in the Spring or Fall of the next year and have a GPA of at least 5.0 on a minimum of 90 units of course weight. Students with a GPA of less than 5.0 on 90 units of course weight will be placed on probation and during the subsequent year must repeat sufficient third-year courses to raise their GPA to 5.0 on 90 units of course weight. Students repeating Year 3 will develop their program in consultation with Department staff.

(4) Students who have received approval to pursue the degree on a part-time basis will be required to maintain Category A status (GPA of at least 5.0) each year and will be promoted to the next year when they have met the appropriate criteria.

(5) All students must register in the program on a continuous basis to ensure a place in the program. Students who wish to temporarily discontinue their program must obtain prior approval of the Department. Discontinuance without permission will require the student to seek readmission and, in this situation, readmission will not be guaranteed.

(6) Probationary status will be assigned to all Category M, Category B, and returning Category C students. Students under probationary standing must demonstrate the ability to meet graduation standards. They must:

a. normally register as full-time students and achieve a Q.I. of at least 4.0 and a minimum GPA of 5.0 on 30 units of course weight or a minimum GPA of 5.5 on 24 units of course weight.

b. pass all courses (minimum grade of 4).

Failure to meet these standards will result in the assignment of Category C status. Category M and B students will have probationary status lifted after successfully completion of these requirements over a full session. Readmitted Category C students will remain on probationary status each session for the remainder of their degree program. Readmitted Category C students who fail to meet probationary standards will never be readmitted to the Faculty of Physical Education and Recreation.

(7) A student proceeding towards a BPE degree must normally attend the first two years of the program on a full-time minimum (30 units of course weight/session) basis. Special cases will be considered on individual merit but a student will not be allowed to pursue the degree entirely on a part-time basis.

(8) Permission to enroll in extra courses (beyond 33 units of course weight) during a Winter Session term will only be considered if a student has a minimum GPA of 7.0 on a minimum of 24 units of course weight over the previous two terms and, in addition, the limit will be 36 units of course weight. This request must be submitted in writing by the student to the Undergraduate Chair.

162.3.2 Promotion Standards, Course Load Requirements and Time Limits for Completion of the BA Program

To be promoted from one year to the next in the BA (Recreation Administration) program, a student must complete all course requirements for that year while maintaining category A status as defined by the academic standing regulations of the Faculty of Physical Education and Recreation (see §162.3 above).

All students must spend at least one year of the program (normally, year 1) registered on a full-time basis carrying a full load (i.e. 33 units of course weight).

Normally, no transfer credit will be granted beyond that given for advanced standing for the preprofessional year.

Time limits for completion of degree requirements: Students in the BA program must normally complete all degree requirements within eight years of their original admission to the program.

Note: §162.4 reserved.

162.5 Continuous Registration

All students must register in the program on a continuous basis to ensure a place in the program. Students who wish to temporarily discontinue their program must obtain prior approval of the Department. Discontinuance without permission will require the students to seek readmission and, in this situation, readmission will not be guaranteed.

162.6 Changes in Registration

(1) Changes in Registration (i.e. last day to add courses). The deadlines for changes in registration, daytime courses are: first-term and full-session courses: September 11; second-term courses: January 10.

(2) Withdrawal from courses. The deadlines for withdrawing from courses are as follows: from a full-session course, January 10; from a single-term course offered in first term, November 15; from a single-term course offered in the second term, March 20.

PAC 100-level courses of one-half a term in length have a withdrawal deadline of the Friday of the fourth full week of the courses. Therefore, in 1991-92, PAC course withdrawal dates are: October 4, November 15, January 31, and March 20.

162.7 Academic Appeals and Grievances

A student wishing to appeal an academic decision within this Faculty must first attempt to resolve the issue with the instructor concerned (if applicable), then with the Department Chair, and if this is not satisfactory, with the Associate Dean. If there is still no satisfactory resolution of the issue the student may then appeal to the Faculty's Undergraduate Student Academic Appeal Committee, by submitting an appeal in writing to the Chair of the Undergraduate Academic Appeal Committee within three months of notification of the decision to be appealed. Further details of the Faculty's appeal procedure are available from the office of the Dean. Certain decisions of this Faculty Undergraduate Academic Appeal Committee may be appealed to the Aca-

demic Appeal Committee of General Faculties Council within 30 days of receiving a decision from the Faculty Appeal Committee. For further information contact the secretary of General Faculties Council.

162.8 Attendance in Dance, Health Education, Physical Activity, and Physical Education and Sport Studies Courses

(1) **Attendance at the first class/lab:** Due to the demand for spaces in many courses, it is necessary to obtain accurate enrollment figures as early as possible in the term to allow students to be considered for available spaces. Therefore, students who are not in attendance at the first two class meetings (without giving prior written notice to the Department) will be subject to having their names struck from the official class list and will not be permitted to attend further meetings of the class.

(2) **Attendance in courses:** Since attendance at lectures, participation in classroom discussions are important components of most courses, students will serve their interests best by regular attendance. Those who choose not to attend must assume whatever risks are involved. However, it should be made clear that a student may be refused permission to write the final examination in a course on the recommendation of the department and with the concurrence of the Dean of the Faculty in the following circumstances:

a. The student has neglected to do a substantial portion of the written assignments in a course of which these are an essential feature, or has attended insufficiently in a course in which class participation is a necessity.

b. The student has neglected to do a sufficient amount of the practical or laboratory work in a course in which these are considered a basic requirement (See §§16.4 and 16.6 of this Calendar). The Department of Physical Education and Sport Studies' policy concerning attendance at laboratory, practicum, seminars, and physical activity classes is that unexcused absence from more than 10% of class sessions is considered to be insufficient attendance. Therefore, in such a situation, permission to take the final examination may not be granted.

163 Programs of Study

163.1 The Degree of BPE

Beginning with the 1986-87 Winter Session, students who entered the Bachelor of Physical Education degree program began taking a program of 132 units of course weight, which has both a professional and discipline focus. The components of the degree include:

Professional Core

A group of courses which deal with the application of theory to the field of Physical Education and Sport Studies.

Discipline Core

A group of courses which provide the knowledge foundation in the field.

Activity Component

A group of courses whose focus is on an activity or sport. These include courses which focus on personal skill acquisition and courses which deal primarily with the analysis, instruction or coaching of an activity.

Discipline Options

A group of discipline courses which are available to enhance a student's program beyond the discipline core level.

Approved Option Component

A group of courses which may be offered by any Department inside or outside of the Faculty. These normally require Department approval.

Route Component

A group or concentration of courses in a specialized professional area of Physical Education and Sport.

BPE Activity Component

Activity courses are those which focus on a physical activity or group of activities. 100-level courses focus specifically on personal skill acquisition and thus the evaluation process in these courses is designed to assess personal skill. PAC 300- and 400-level activity courses focus specifically on the analysis and instruction of a physical activity or group of activities.

A minimum of 7.5 units of course weight in 100-level activity courses and a minimum of 6 units of course weight in PAC 300- and 400-level activity courses must be presented for the BPE degree. Up to 4.5 units of course weight of the required PAC 100-level credits may be replaced by units of course weight in the **same** activity at the PAC 300- or 400-level. In total, every BPE student must present 18 units of course weight in activity courses prior to graduation.

Required Level I Courses:

Swimming
Gymnastics
Track and Field
Two of: Basketball, Field Hockey, Football, Ice Hockey, Soccer, Volleyball, Rugby, Golf, Squash, Racquetball, Tennis, Badminton.

The following is an outline of the BPE degree framework:

First Year

DANCE 100 The Spectrum of Dance in Society
PESS 100 Structural Anatomy
PESS 110 Physical Fitness Theory and Practice
PESS 120 Introduction to Athletic Therapy
PESS 140 Adapted Physical Education
PESS 150 Introduction to the Administration of Sport and Physical Education Programs
PESS 170 Leadership and Instruction in Physical Activity
PESS 180 Introduction to Outdoor Education
*Non-Faculty Option
*Non-Faculty Option
*Non-Faculty Option
*See list of suggested options in §163.1.2.

Second Year

PESS 201 Biomechanics
PESS 203 Skill Acquisition and Performance
PESS 204 Sociocultural Foundations of Physical Education and Sport
PHYSL 260 Elementary Physiology
Route Course
Physical Activity Course
Physical Activity Course
Approved Option
Approved Option
Non-Faculty Option

Third Year

PESS 302 or 303 or 307
PESS 302 or 303 or 307
PESS 304 or 401 or 402 or 407
PESS 304 or 401 or 402 or 407
Route Course
Route Course
Route Course
Physical Activity Course
Physical Activity Course
Approved Option
Approved Option

Fourth Year

Choose two of:
DANCE 300 Dance History and Philosophy
PESS 209 Measurement and Evaluation
PESS 300 Physiology of Exercise
PESS 301 Quantitative Biomechanics of Physical Activity
PESS 302 Motor Learning, Memory, and Control
PESS 303 Psychology of Sport
PESS 304 Sociology of Physical Education and Sport
PESS 307 Growth and Development
PESS 401 History of Physical Education and Sport
PESS 402 History of Physical Education and Sport in Canada
PESS 403 Psychology of Coaching
PESS 404 Comparative Physical Education
PESS 407 Philosophy of Physical Education and Sport
PESS 408 Aesthetics of Dance, Sport and Physical Education
PESS 409 Introduction to Research
Route Course
Route Course
Route Course
Physical Activity Course
Physical Activity Course
Approved Option
Approved Option
Approved Option
PESS 490 Applied Ethics in Physical Education and Sport

163.1.1 Degree Program Routes

Within the degree program each student will complete one of the following routes:

(1) The Adapted Physical Activity Route

The focus of the Adapted Physical Activity Route is on developing skills to work in instructional programs and in facilitating integration of the handicapped and disabled into the mainstream of physical activity. Following the introductory professional core course in Year 1 students will move to a series of three practicums. Practicums deal with(1) the moderately/severely mentally handicapped,(2) the physically awkward, and(3) physically disabled adults. These practicums will focus on individualized instruction, small group instruction, counselling, program planning, program design, and administration of programs.

Required Courses

PESS 345 Practicum in Physical Education for the Mentally Handicapped
PESS 346 Practicum in Physical Activity for the Physically Awkward
PESS 445 Practicum in Physical Education for the Physically Disabled

And **four courses** from the following list **some of these courses have prerequisites**; refer to the appropriate sections of the University Calendar for further information):

EDPSY 207 Classroom Management of Atypical Adolescents
EDPSY 341 Psychology of Exceptional Children and Youth
EDPSY 343 Education of Exceptional Children and Youth
EDPSY 357 Behavioral Management of Exceptional Children
EDPSY 411 Introduction to Guidance
EDPSY 469 Human Development and Education
FAM 320 Development in Infancy and Early Childhood
FAM 410 The Aging Family: Needs and Resources
FAM 412 Family and Special Needs Children
LING 319 Child Language Acquisition
OCCTH 106 Communication Theory and Helping Relationships
OCCTH 107 Models, Approaches, and Service Delivery
OCCTH 498 Special Seminars (Intersession)
PSYCO 223 Developmental Psychology
PSYCO 258 Cognitive Psychology
PSYCO 339 Abnormal Psychology
PSYCO 454 Perceptual and Cognitive Development
PSYCO 456 Advanced Topics in Developmental Psychology
PSYCO 458 Advanced Cognitive Psychology
RLS 432 Recreation for Special Groups
SOC 224 Sociology of Deviance and Conformity
SOC 225 Criminology
SOC 271 Introduction to the Family
SOC 342 Socialization
SOC 375 Sociology of Aging
SOC 377 Sociology of Youth
SOC 427 Juvenile Delinquency
SPA 280 Language Development
SPA 281 Communication Disorders

For students with exceptional experience, entry the following courses may be possible. See the instructor for permission.

RLS 325 Principles and Processes in Planning for Leisure
RLS 471 Recreation Services for Special Groups

Optional Internship Program in the Adapted Physical Activity Route

Students who are interested may apply to enter the optional internship program which consists of a one term full-time practicum in an agency in the community. The practicum would require a 35 hours per week commitment to work in a suitable setting under the direction of an approved supervisor. Students would be involved in planning and implementing programs, instruction for special groups, administering programs, training volunteers, monitoring and evaluating programs and participants. Possible placements would include YMCA, YWCA, ACT Centre, Percy Page Centre, Special Olympics, Child Development Centre.

Student applicants will be chosen for appropriate placements. Since the number of placements is limited there will be a limit to the number of students in the optional program. This limit may vary from year to year. For these students the route requirements will be as follows:

PESS 345 Practicum in Physical Education for the Mentally Handicapped

PESS 346 Practicum in Physical Education for the Physically Awkward
PESS 445 Practicum in Physical Education for the Physically Disabled
PESS 495 Professional Practicum (equivalent to 12 units of course weight)

Students in the internship program are encouraged to take Route Option courses wherever possible in this program.

(2) The Sport and Physical Education Administration Route

The focus of the Administration Route is to provide an understanding of the role and function of an administrator in physical education and sport programs. The route will expose the student to both theoretical and practical issues in the organization and administration of physical education and sport programs. The Administration Route is concerned with the administration of physical education, co-curricular activities, intramurals, interscholastic sport, community sport, recreational physical activity, etc., as well as government and amateur sport.

Required Courses

ACCTG 300 Financial Accounting
ORG T 311 Theory of Formal Organizations
PESS 350 Advanced Analysis of the Administration of Sport and Physical Education Programs
PESS 495 Professional Practicum (equivalent to 12 units of course weight).

Plus two courses from the following list (some of these courses have prerequisites; refer to the appropriate sections of the University Calendar for further information):

ACCTG 311 Introductory Accounting
ECON 101 Introduction to Microeconomics
ECON 102 Introduction to Macroeconomics
LEG R 301 Legal Foundations of the Canadian Economy
MARK 301 Fundamentals of Marketing
ORG T 301 Behavior in Organizations
ORG T 402 Seminar in Advanced Theories of Behavior in Organizations
ORG T 412 Seminar in Advanced Concepts of Formal Organization Theory
ORG T 432 Sex Roles in Organizations
PESS 352 Sports Facilities: Planning, Construction and Maintenance
PESS 497 Selected Topics in Physical Education and Sport (Sport and Business)
PESS 497 Selected Topics in Physical Education and Sport (Sport and the Law)
PESS 497 Selected Topics in Physical Education and Sport (Computer Uses for Sport and Physical Education)
POL S 320 Canadian National Government and Politics
POL S 321 Canadian Government
POL S 322 Local Government and Administration
POL S 323 Local Government and Politics
POL S 328 Elements of Public Administration
POL S 414 Theories of Politics and Society
POL S 420 Canadian National Government
POL S 431 Administrative Behavior
RLS 120 Introduction to Recreation and Leisure Studies
RLS 324 The Political Economy of Leisure
RLS 325 Principles and Processes in Planning for Leisure
RLS 332 Program Planning, Marketing and Implementation
RLS 430 Administrative Practices in Recreation Organizations
RLS 450 Staging Major Community Events
RLS 451 Planning Recreation Facilities
RLS 470 School-Community Recreation
RLS 472 Sport and the Community
RLS 480 Public Relations for Recreation Agencies
RLS 481 Cultural Arts Administration
SOC 261 Social Organization
SOC 363 Sociology of Work and Industry
SOC 447 Leadership
SOC 460 Social Organization - Organization Theory
SOC 464 Selected Topics in the Sociology of Work and Industry
SOC 465 Sociology of Complex Organizations
SOC 469 Sociology of Work and Leisure

(3) The Athletic Therapy Route

The focus of the Athletic Therapy Route is to help students develop understanding and skill in theoretical principles and applied practices related to the prevention and care of injury in physical activity. The route in Athletic Therapy has been planned to provide specialized curricula in Athletic Therapy within the existing academic program. Academic and practical requirements include knowledge and/or skills in: injury prevention, immediate injury assessment, initial emergency care, contemporary sport-specific conditioning techniques, physical re-conditioning after injury for specific sports, supportive strapping procedures and protective equipment. All students who have completed course requirements in the Athletic Therapy route will be placed in field or clinical settings as student or assistant therapists.

Required Courses

PTHER 310 Scientific Basis of Athletic Injuries
PESS 310 Advanced Conditioning Methods
PESS 325 Practicum in Athletic Therapy Techniques
PESS 420 Advanced Athletic Therapy, Methods, and Techniques
PESS 425 Advanced Practicum in Athletic Therapy Techniques

And two courses from the following list (some of these courses have prerequisites; refer to the appropriate sections of the University Calendar for further information):

FD NU 225 Introductory Human Nutrition I
FD NU 227 Introductory Human Nutrition II
HE ED 210 Introduction to Health Promotion
PMCOL 222 Drugs, Medicine, and Man
PESS 301 Quantitative Biomechanics of Physical Activity
PESS 314 Body Composition and Physical Activity
PESS 403 Psychology of Coaching
PESS 409 Introduction to Research

First Aid and CPR Certification

Students in the Athletic Therapy Route will, as part of the route requirements, obtain certification in a specialized first aid course and a cardio-pulmonary resuscitation course. These certification requirements must be obtained prior to completion of the third year of BPE program. The enrollment or registration in the above two courses and any cost or fee incurred are the sole responsibility of the student.

(4) The Coaching Route

The Coaching Route provides a theoretical and practical foundation for the beginning coach. Through the required and optional courses the student in this route is introduced to concepts which cut across all sports and is given the technical background to begin coaching in one or more sports. The purpose of the Coaching Route is to provide the student with the fundamentals of coaching theory and with the opportunity to develop basic coaching skills as they apply to a team and/or an individual sport in the practical situation. Emphasis is directed at the expected roles of today's coach, those of technical expert, educator, adviser and administrator. In addition, the student will be kept abreast of contemporary coaching theories and applied procedures. This knowledge is then put into an advanced practical setting to allow the student to demonstrate coaching abilities under supervision. Upon completion of the route a student coach will be expected to have completed the Coaching Certification at Theory Level I and II and at Technical Levels I and II.

Required Courses

PESS 260 Introduction to Coaching Theory
PESS 360 Applied Principles of Coaching
PESS 365 Coaching Practicum (Participant/Observer)
PESS 403 Psychology of Coaching
PESS 465 Advanced Coaching Theory and Practicum

And one from the following list:

PESS 310 Advanced Conditioning Methodology
PESS 330 Physical Activity and Sport for Children

Physical Activity Courses

Students may select from a variety of activity courses dependent upon their personal sporting/coaching interests. It is recommended that activity courses are considered also from the point of view of their teaching/coaching content and whether they afford NCCP (Level 1 and 2) qualifications. It might also be advised that a student consider activity courses that relate to both teams and individual sports rather than limit activity to one or the other. These choices are best discussed with either the Route Coordinator or an appointed Route Supervisor.

Other Recommended Courses

PESS 300 Physiology of Exercise
PESS 301 Quantitative Biomechanics of Physical Activity
PESS 303 Psychology of Sport
PESS 304 Sociology of Physical Education and Sport
PESS 420 Advanced Athletic Therapy Methods and Techniques

(5) The Dance Route

The Dance Route is designed to give students exposure to a variety of different dance forms and some depth in modern or creative dance. Modern dance is considered to have the greatest potential educationally for all ages and is an excellent preparation for designing movement in artistic sports. Dance has an expressive art function for people as well as its important contributions to active physical movement — the development of strength, flexibility, coordination, rhythmic sensitivity, body awareness, and perception of aesthetic design in movement. It is therefore an important dimension in physical activity programs both educationally and recreationally.

Required Courses

DANCE 300 Dance History and Philosophy (Note: students who take this course in the discipline core may choose a Dance option in this slot.)
DANCE 310 Dance/Movement Accompaniment
DANCE 345 Modern Dance Techniques
DANCE 350 International Folk Dance
DANCE 446 Modern Dance Composition

And two courses from the following list:

DANCE 395 Practicum in Choreography and Production
DANCE 495 Dance Lecture-Demonstration Practicum
DANCE 496 Practicum in Dance Instruction

Students must choose two Level I Dance Activity Courses (★1.5) from a list that may include:

DAC 155 Social Dance
DAC 160 Jazz Dance
DAC 165 Ballet

And one Level II Dance Activity Course (★3) from the following list:

DAC 355 Social Dance
DAC 360 Jazz

Other Recommended Courses

DANCE 340 Modern Dance
DANCE 431 A Study of Dance for Children
DANCE 433 Creative Dance for Young Children
PESS 408 Aesthetics of Dance, Sport, and Physical Activity

(6) The Fitness and Health Promotion Route

All aspects of fitness and the relationship of lifestyle behaviors to health continue to gain increasing importance in our society. This route is designed to provide the knowledge, background and skills to prepare individuals to take professional roles in this rapidly expanding area. Students will be expected to gain a strong content base in both the biological and behavioral science areas to be effective practitioners and leaders in the fitness and health promotion field.

Required Courses

EDPSY 411 Introduction to Guidance
HE ED 210 Introduction to Health Promotion
HE ED 311 Health and Fitness Assessment and Prescription
HE ED 415 Practicum in Health and Fitness Assessment and Counselling
PESS 310 Advanced Conditioning Methodology
PESS 314 Body Composition and Physical Activity
PESS 315 Practicum in Fitness Leadership and Instruction

Physical Activity Courses

Students must take the following courses, pending approval:

Personal Skill Acquisition in Fitness Activity (this course will be a Level I Activity)
Fitness Programs for Special Groups (this course will be a Level II Activity)

Other Recommended Activity Courses

DAC 355 Social Dance
PAC 180 Canoeing and Kayaking
PAC 181 Cross Country Skiing
PAC 182 Rock Climbing
PAC 300 Advanced Aquatics
PAC 303 Skin and Scuba Diving
PAC 331 Analysis and Instruction of Badminton
PAC 333 Analysis and Instruction of Racquetball
PAC 334 Analysis and Instruction of Squash
PAC 335 Analysis and Instruction of Tennis
PAC 345 Analysis and Instruction of Golf
PAC 355 Introduction to Yoga

Other Recommended Option Courses

ACCTG 311 Introductory Accounting
BUS 424 Administration of the Small Business
DANCE 310 Dance/Movement Accompaniment
ECON 101 Introduction to Microeconomics
FIN 301 Business Finance
FD NU 325 Introductory Human Nutrition I
FD NU 327 Introductory Human Nutrition II
MARK 301 Fundamentals of Marketing
ORG T 301 Behavior in Organizations
ORG T 311 Theory of Formal Organizations
PMCOL 222 Drugs, Medicines and Man
PESS 209 Measurement and Evaluation
PESS 350 Advanced Analysis of the Administration of Sport and Physical Education Programs
PESS 497 Selected Topics in Physical Education and Sport
PTHER 481 Cardiac Rehabilitation
PHYSL 404 Cardiovascular Physiology
PSYCO 104 Basic Psychological Processes

PSYCO 233 Personality
RLS 120 Community Recreation
RLS 325 Principles and Processes in Planning for Leisure
RLS 430 Administrative Practices in Recreation Organizations
RLS 480 Public Relations for Recreation Agencies

Other Requirements

Students will be required to be certified in the following areas:

Basic Cardio-Pulmonary Resuscitation
Registered Fitness Appraiser
Certified Fitness Appraiser
Basic Fitness Leader
Specialist Fitness Leader in a minimum of two specialties

The opportunity to be certified through route courses may be offered but in the instance that it is not, students have the responsibility to fulfill this requirement on their own.

(7) The Outdoor Education Route

The Outdoor Route offers leadership preparation for two types of roles, the outdoor education program development "generalist" and the extended trip leader. The "generalist" program provides the candidate with knowledge and skill to encourage, plan, organize, manage, instruct and guide programs carried out by schools, municipal recreation boards, YM/YWCA's, Boys and Girls Clubs and other recreational/educational agencies. Youth development agencies are particularly interested in utilizing the outdoors to encourage client growth.

A limited number of opportunities exist for wilderness guides and extended outtrip leaders with outdoor centres, camps, and private outfitters. Qualified senior students with this interest in mind and/or with a strong personal commitment to developing wilderness travel skills work together to develop an expedition planning, outfitting and guiding team known as "Explorations". This senior optional program allows qualified students to apply their learnings to the research, operation, and leading of three extended trips - usually by canoe or kayak, by snow shoe, and by ski. In line with the Route's overarching philosophy of program integration, "Explorations" trips and leadership combine the best of wilderness group living, adventure, and environmental education. "Explorations" allows the participant to read, research, and experience Albertan and Canadian environments, to re-experience a historic trail or trip, and most significantly, to lead in the wilderness group context.

All outdoor leader candidates are encouraged to choose appropriate interpersonal skills (e.g. counselling) optional courses and to build up relevant experience through volunteer and part-time work. Given the breadth of skills and judgement needed in outdoor leadership, all candidates must grasp every opportunity to develop skill, experience, and certification in their free time and summer vacations.

Required Courses

PESS 381 Biomedical and Safety Foundations of Outdoor Pursuits
*PESS 382 Wilderness Living, Navigation and Travel
PESS 383 Organization and Management of Outdoor Education
PESS 385 Outdoor Environmental Leadership
PESS 485 Outdoor Leadership Practicum

And two three-weight course equivalents from the following list:

INT D 466 Principles of Heritage Interpretation
INT D 467 Methods of Heritage Interpretation
PESS 486 Wilderness Explorations Guiding Practicum (equivalent of 6 units of course weight)
PESS 495 Professional Practicum (equivalent to 12 units of course weight)
PESS 499 Directed Study
RLS 460 Urban Outdoor Recreation
RLS 461 Outdoor Recreation Programming and Counselling

Physical Activity Courses*

PAC 380 Small Craft Leadership (prerequisite:PAC 180)
PAC 381 Ski Leadership (prerequisite: PAC 181)

***Note:** These courses are normally taken in a professional Spring Camp during Intersession (month of May).

Optional Professional Practicum

Students interested in a more extensive professional practicum and who are prepared to commit themselves to a full term of supervised practice leadership may choose either the Professional Practicum or "Explorations".

(1) **PESS 495:** Professional Practicum (equivalent to four half-course). The practicum requires a 35 hours per week commitment to work in an outdoor education centre or agency. Possible placements might include such agencies as the Blue Lake Centre, Strathcona Wilderness Centre, YoWoChas Centre, Bennett Environmental Centre, or the ACT Centre.

OR:

(2) **PESS 486:** Wilderness Explorations Guiding Practicum (two half-course equivalents). Qualified students with a particular interest in extended wilderness travel from an integrated "Canadian Studies" perspective may elect to participate in the one-term "Explorations" program. A team of senior outdoor students plan and carry out a series of field studies over a variety of Canadian eco-communities and historic routes. Each team member registers in PESS 486. Each student is also expected to research and interpret a particular scholarly perspective of the travel experience. In order to do so, "Explorations" students usually also register in history, anthropology, geography or other environmental studies reading courses (e.g. HIST 467 - Selected Topics in Alberta History). An "Explorations" student registration would appear as follows:

PESS 485 Outdoor Leadership Practicum
PESS 486 Wilderness Explorations Guiding Practicum
PESS 499 Directed Study or an Approved Option Course

Recommended Options

A great variety of excellent option courses are available across the University campus These may be used to meet personal needs or interests, to prepare background for an anticipated professional career (e.g. to develop a second teaching subject area), and to develop a broad environmental education foundation (e.g. anthropology, biology, counselling, geography, or history). An extensive list of courses of particular interest to Outdoor students is available in the Outdoor Education Route guidelines pamphlet, which may be obtained at the Physical Education and Sport Studies office (PAV 421, Van Vliet Centre).

(8) The Physical Activity and Sport for Children Route

The focus of the Physical Activity and Sport for Children Route is on the planning and implementing of physical activity and sport programs that are designed to meet the need of children up to twelve years of age. Students, after obtaining a broad base of knowledge, may specialize in one age group or in one type of activity.

Required Courses

PESS 330 Physical Activity and Sport for Children
PESS 335 Practicum in Physical Activity for Children
PESS 430 Contemporary Issues in Physical Activity and Sport for Children
PESS 435 Advanced Practicum in Children's Physical Activity and Sport

And three courses from the following list:

DANCE 431 A Study of Dance for Children
PAC 320 The Structure and Strategy of Games
PAC 425 The Study of Games for Children
PAC 465 The Study of Gymnastics for Children

Physical Activity Courses

Students should select a variety of physical activity (PAC) courses dependent upon their personal interests. It is advised that courses be selected to broaden their knowledge base and to provide more in-depth study of activities likely to be used in teaching/coaching. At least two courses must be Level II. The following Level II activity courses are recommended:

PAC 305 Water, Snow and Ice Activities for Children and Youth)
PAC 361 Analysis and Instruction of Educational Gymnastics
PAC 375 Track and Field and Organization of Sports Events for Children and Youth

Other Recommended Option Courses

EDPSY 163 Introduction to Educational Psychology: Development
FAM 241 Family Development
PESS 260 Introduction to Coaching Theory
PESS 302 Motor Learning, Memory and Control
PESS 307 Growth and Development
PESS 360 Applied Principles in Coaching

(9) The Physical Activity Leadership Route

The focus of this route is on the processes involved in effective leadership in physical activity settings with adolescent and adult populations. Generally the emphasis is on instructional environments across skill levels. Students in this route engage in the study of principles of effective leadership and instruction and are extended the opportunity to develop their own skills in a variety of settings.

Required Courses

A Level II or Level III Physical Activity Course
PESS 375 (or equivalent) (Practicum in Instruction in Physical Activity
PESS 475 (or equivalent) (Advanced Practicum in Leadership and Instruction in Physical Activity

And four courses from the following list with at least one course selected from Group I and one from Group II (some of these courses have prerequisites; refer to the appropriate sections of the University Calendar for further information):

Group I

EDPSY 329 Educational Psychology of Adolescence
PESS 494 Physical Activity and Aging
SOC 375 Sociology of Aging
SOC 377 Sociology of Youth
SOC 427 Juvenile Delinquency

Group II

EDPSY 371 Learning, Instructional Psychology and Educational Practice
EDPSY 471 Learning and Instruction
EDPSY 495 Interpersonal Communications for Teachers
RLS 121 Methods and Materials for Recreation Instructors
RLS 472 Sport and the Community
SOC 241 or PSYCO 241 Social Psychology
SOC 447 Leadership

Physical Activity Courses

Students in this route are encouraged to enroll in physical activity courses which broaden already existing personal experiences in order that leadership and instructional abilities can be applied to a wide variety of activity settings. However, at least two activity courses must be completed at the instructional level (Level II) in addition to the Level II or III course selection taken as a required route course.

Consideration should be given to selecting activity courses which lend themselves to participation by the populations with which the student is interested in working.

Students considering enrolling in the Faculty of Education after completion of the BPE degree should select activity courses which are consistent with the seven activity areas (see Physical Education Major information in the Faculty of Education section of the University Calendar).

Other Recommended Course

PESS 307 (Growth and Development

(10) The Sport Studies Route

The purpose of this route is to provide students with the opportunity to pursue an interest in a particular sport studies discipline. Study may be focussed on the biological, psychomotor, or sociocultural area. The route is a cooperative program between a student and a route adviser. Enrollment in this route is limited. Admission is determined by the Department of Physical Education and Sport Studies and based in part on the availability of route advisers and facilities or other resources required for the practicum courses.

Required Courses

PESS 305 Sport Studies Route Practicum I
PESS 405 Sport Studies Route Practicum II

And:

Two courses from a related discipline or profession outside the Faculty. These courses should be chosen in consultation with the route adviser.

And:

Three other senior courses approved by the route adviser.

(11) Physical Education General Route

The purpose of the Physical Education General Route is to provide students with the opportunity to pursue a program which reflects a generalist philosophy. The General Route will have no required practicum component and all seven route courses normally will be taken within the Faculty of Physical Education and Recreation.

Required Route Courses

Students will take the BPE degree program course as outlined in §163.1. Route course requirements Years 3 or 4 are:

a) The third course of:*
PESS 302 Motor Learning, Memory, and Control
PESS 303 Psychology of Sport
PESS 307 Growth and Development
b) A third course of:*
PESS 304 Sociology of Physical Education and Sport
PESS 401 History of Physical Education and Spo

PESS 402 History of Physical Education and Sport in Canada
PESS 407 Philosophy of Physical Education and Sport
Choose one of:
PESS 209 Measurement and Evaluation
PESS 300 Physiology of Exercise
) of a) and b) were chosen as part of the BPE ee program requirements.

sical Activity/Dance Courses

Any two DANCE or PAC courses at the 300- and level recommended by the student's Faculty Adviser.

rth Year BPE General Route Options

CE 300 Dance History and Philosophy
S 209 Measurement and Evaluation
S 300 Physiology of Exercise
S 301 Quantitative Biomechanics of Physical Activity
S 302 Motor Learning, Memory, and Control
S 303 Psychology of Sport
S 304 Sociology of Physical Education and Sport
S 307 Growth and Development
S 310 Advanced Conditioning and Methodology
S 314 Body Composition and Physical Activity
S 330 Physical Activity and Sport for Children
S 350 Advanced Analysis of the Administration of Sport and Physical Education Programs
S 360 Applied Principles of Coaching
S 401 History of Physical Education and Sport
S 402 History of Physical Education and Sport in Canada
S 403 Psychology of Coaching
S 404 Comparative Physical Education and Sport
S 407 Philosophy of Physical Education and Sport
S 408 Aesthetics of Dance, Sport, and Physical Activity
S 409 Introduction to Research
S 494 Physical Activity and Aging

3.1.2 Approved Non-Department Option Suggestions

Of the eleven approved options in the BPE degree ram, at least four must be non-faculty options and, re possible, these should be taken in the first year. The following is a list of courses that students may to consider when choosing non-department op-, particularly in first year:
HR 101, 110, 150, 182
B 100
131
H 101, 102
RO 110
100, 110
199
G 100
M 100, 160
NA 100, 101, 102, 230
ITC 166, 172
SS 102, 110, 141, 160, 201, 250, 251
T 100, 171, 172
UT 161, 162
MA 101, 102, 149, 191
N 101, 102
SY 163
L 101, 104, 105
220
N 100, 150, 152, 155, 156
IET 165, 197
G 130, 131, 150, 151
L 102, 103
M 101, 150, 151, 165, 171
EK 100
100
100, 110, 120, 210, 280, 281
D 101, 102
100, 150
AN 100, 101, 102, 151, 152
IN 100
102
H 113, 114, 115, 120, 121, 153, 154
RB 193
IC 100, 101, 150, 151, 202, 203
W 100
OL 222
121, 122, 130, 140, 160
S 105, 106, 169
SH 100
S 100, 103
CO 104, 105
120
G 100, 102, 103, 104
S 100, 160
ND 175
100, 101, 102
SPAN 100, 201
STAT 141, 155
SWED 100
UKR 100, 150
ZOOL 120

163.2 Degree of BA in Recreation Administration

163.2.1 The Previous Degree of BA in Recreation Administration (Currently Being Phased Out)

Students who entered the BA in Recreation Administration degree prior to the 1989-90 Winter Session (1990-91 for transfer from Red Deer college) will follow the previous degree of BA in Recreation Administration. This program is currently being phased out. Details on the program may be obtained from the Department of Recreation and Leisure Studies.

163.3 The Degree of BA in Recreation Administration (Revised Program Commencing in 1989-90)

163.3.1 Program Description

Beginning with the 1989-90 Winter Session, students who entered the BA in Recreation Administration degree program began following a revised program.

The BA (Recreation Administration) degree revised program consists of 96 units of course weight following a previous year of university study consisting of 30 units of course weight designated as a preprofessional year.

The preprofessional year is taken while the student is enrolled in another faculty at the University (usually the Faculty of Arts) or while enrolled in a University Transfer Program at an accredited Community College (see §162.1.3).

The three-year professional program is composed essentially of two sets of courses, as follows:

(1) Those offered by the Department of Recreation and Leisure Studies as core to the entire program (Core Recreation Courses), as core to the student's chosen pattern or area of interest (Pattern Recreation Courses), or as optional courses (Recreation Options), and

(2) Those offered by other departments at the University and recognized as core to the entire program (the only non-recreation courses in the Core program are SOC 210, Introduction to Social Statistics and SOC 315, Introduction to Social Methodology), as core to the student's chosen pattern or area of interest (Pattern Foundation Courses) or as optional courses related to a particular pattern (Pattern Related Options).

The latter set of courses is drawn from such fields as Sociology, Political Science, Fine Arts, Psychology, Biology, Forest Science, and Physical Education.

The intent of the two sets of courses is to provide students with a strong Common Core Program, together with an opportunity to obtain a beginning competency in one of a range of areas of professional interest (Pattern Areas).

163.3.2 Commonly Used Terms

(1) **Core Recreation Courses:** Those courses offered by the Department of Recreation and Leisure Studies which are core to the program. These courses must be completed by all students in the BA in Recreation Administration degree program.

(2) **Pattern Recreation Courses:** Those courses offered by the Department of Recreation and Leisure Studies which are essential for a pattern of specialization. These courses must be completed by students in that pattern of specialization. (Refer to the Program Guide provided by the Department of Recreation and Leisure Studies.)

(3) **Pattern Foundation Courses:** Those courses offered by other departments at the University which are essential for a pattern of specialization. (Refer to the Program Guide provided by the Department of Recreation and Leisure Studies.)

(4) **Pattern-Related Options:** Those optional courses related to a pattern of specialization. (Refer to the Program Guide provided by the Department of Recreation and Leisure Studies.)

163.3.3 Program Requirements

The professional program following the preprofessional year (see §162.1.3) is composed of 96 units of course weight. Of these 60 units of course weight comprise the Core program. The remaining 36 units of course weight make up the Pattern Program.

The Core Program

The Core Program is the common element in the program for all Recreation students, regardless of their individual patterns or areas of interest. It emphasizes the two major thrusts of the program: Acquisition of knowledge and skills relating directly to the study and practice of administration in the recreation field in Canada; and exploration of the evolution of the concepts of leisure and recreation in Canadian society and their implications for a professional career in the recreation field.

The Core Program consists of the following 20 courses, or their equivalent:

Core Recreation Courses

RLS 121 Methods and Materials for Recreation Instructors
RLS 320 Introduction to the Philosophies of Leisure
RLS 321 Introduction to the History of Leisure in Western Civilization
RLS 322 Sociological and Anthropological Perspectives on Leisure
or
RLS 323 Leisure and Human Behaviour
RLS 324 The Political Economy of Leisure
RLS 325 Principles and Processes in Planning for Leisure
RLS 330 Recreation and Community Development
RLS 331 Leisure Education
RLS 332 Program Planning, Marketing, and Implementation
RLS 430 Administrative Practices in Recreation Organizations
RLS 431 Volunteers and Voluntary Organizations in Recreation
RLS 432 Recreation and Special Groups
RLS 440 Professional Practicum (6 units of course weight)
RLS 441 Practicum Seminar
RLS 442 Post-Practicum Seminar
RLS 444 Issues in Recreation Practice

Core Non-Recreation Courses

SOC 210 Introduction to Social Statistics
SOC 315 Introduction to Social Research Methodology

Note: Students who entered the revised BA Recreation Administration degree program prior to the 1991-92 Winter Session should have taken RLS 121 Methods and Materials for Recreation Instructors during their preprofessional year. As a result, they have to take both RLS 322 Sociological and Anthropological Perspectives on Leisure and RLS 323 Leisure and Human Behaviour as part of the Core Program.

The Pattern Program

The Pattern Program is made up of the equivalent of 36 units of course weight in a chosen pattern or area of interest. Each Pattern is designed to provide a beginning competency in a career-related theme. There are seven patterns from which a student may choose.

(1) Leisure and Community Development

This pattern examines alternate strategies for facilitating the development of community-based, self-help processes pertinent to the enhancement of local leisure opportunities and the overall quality of community life. Emphasis is placed on the principles and practices of community organization, inter-group relations, and leadership development. This pattern is especially appropriate for students with career ambitions in inter-agency collaborative programming, school-community relations, or indirect provision of leisure services.

(2) Planning and Management of Recreation Environments

This pattern focuses on the planning and management of recreation resources, parks, open space, and facilities as components to recreation — open space

systems. Particular attention is given to resource planning and management principles and practices associated with the provision of recreation opportunities and the protection of the resource environment.

(3) Recreation through Physical Activity

This pattern focuses on the planning, coordination, and development of physical, activity-based leisure opportunities. Primary emphasis is given to general principles and practices for facilitating the development of such opportunities. Complementary to this general process-orientated base, the selection of appropriate optional courses within the pattern provides the opportunity to pursue an interest in one or more of the following areas — sport, games, dance, fitness.

Note: This pattern complements the Administration Route offered within the Bachelor of Physical Education (BPE) degree program in the Department of Physical Education and Sport Studies. Although several courses might be common to the two approaches, because of basic differences in the cores of the two degree programs, the graduates of each will have quite different competencies. Graduates of the Recreation Administration pattern will have a stronger social science background and a greater emphasis on group work skills, and a philosophical orientation emphasizing mass participation and provision of recreation experiences for all. Graduates of the Physical Education route, on the other hand, will have a stronger background in the scientific bases of physical activity and will be more oriented toward an emphasis on physical skill and analysis and development.

(4) Leisure and Tourism

This pattern focuses on tourism as a phenomenon of contemporary society, particularly as it relates to leisure and recreation behaviour. Emphasis is placed on the tourism system, its constituent elements, processes for matching demand and supply, and the roles played by the various sectors including government and industry.

(5) Leisure and Culture

This pattern deals with the planning, coordination, and development of opportunities for the recreation experience through the media of various cultural arts. Primary emphasis is given to general principles and practices for facilitating the development of such opportunities. Complementary to this general process-oriented base, the selection of appropriate optional courses within the pattern provides an opportunity to pursue one's interest in one or more of the following areas; art and design, dance, drama, film arts, literary arts, music, and heritage interpretation.

(6) Outdoor Recreation

This pattern focuses on program development, leadership, and counselling for recreation experiences in outdoor settings. Emphasis is placed on developing both a conceptual and an experiential basis for understanding the physical, psychological, and social environments inherent in a wide range of outdoor recreation pursuits. Students are encouraged to use both university and non-university resources to upgrade their performance and leadership skills in a selected area of outdoor recreation.

(7) Recreation and Special Populations

This pattern is designed to educate and prepare entry level, supervisory, and/or administrative personnel for the field of recreation for the delivery of services to special populations. The pattern allows students to emphasize either therapeutic recreation or recreation services for individuals with special needs.

Environments offering therapeutic recreation, such as correctional institutions, health care facilities, rehabilitation centres, long-term care facilities, as well as community organizations, associations, and municipal park/recreation agencies providing recreation services for individuals with special needs will be examined.

The pattern attempts, through student course selection, to develop an awareness of the needs of special populations and how recreation is able to meet them. The courses will also provide the student with an understanding of recreation for special populations in relation to the total field of recreation.

Note: Further details concerning the Patterns are available from the Department of Recreation and Leisure Studies.

163.3.4 The Yearly Program of Study

The program of study for the preprofessional year is described under admission requirements to the BA (Recreation Administration) Degree (see §162.1.3).

Upon admission to the program, students will be randomly assigned to two groups of equal number: Group A and Group B. The two groups will follow identical courses for the first year of the program. The two groups will have differing courses in the second and third years, as a result of the timing of the Professional Practicum. Group A students will enroll in the Practicum for the second term of the second year. Group B students will enroll in the Practicum for the first term of the third year.

Note A: All students must complete all first-year courses in order to proceed into the second-year and all second year courses in order to continue into the third year, and so on.

Note B: Throughout this section, all courses are listed as single-term (3 units of course weight) courses, unless otherwise specified.

First Year (33 units of course weight)

First Term (All Students) (15 units of course weight)
RLS 121 Methods and Materials for Recreation Instructors
RLS 320 Introduction to Philosophies of Leisure
RLS 322 Sociological and Anthropological Perspectives on Leisure
or
RLS 323 Leisure and Human Behaviour
RLS 325 Principles and Processes in Planning for Leisure
SOC 210 Introduction to Social Statistics

Second Term (All Students) (18 units of course weight)
RLS 321 Introduction to the History of Leisure in Western Civilization
RLS 324 Political Economy of Leisure
RLS 330 Recreation and Community Development
RLS 331 Leisure Education
RLS 332 Program Planning, Marketing and Implementation
SOC 315 Introduction to Social Methodology

Second Year

First Term (All Students) (36 units of course weight)
RLS 430 Administrative Practices in Recreation Organizations
RLS 431 Volunteers and Voluntary Organizations in Recreation
RLS 432 Recration for Special Groups
Pattern Recreation
Pattern Recreation, or Pattern Foundation, or Pattern-Related Option
Pattern Recreation, or Pattern Foundation, or Pattern Related Option

Second Term (Group A Students) (12 units of course weight)
RLS 440 Professional Practicum (6 units of course weight)
RLS 441 Practicum Seminar
Pattern Recreation, or Pattern Foundation, or Pattern-Related Option

Second Term (Group B Students) (15 units of course weight)
15 units of course weight from Pattern Foundation, or Pattern-Related, or Pattern Recreation

Third Year

First Term (Group A Students) (15 units of course weight)
RLS 442 Post Practicum Seminar
12 units of course weight from Pattern Recreation, or Pattern Foundation, or Pattern-Related Options

First Term (Group B Students) (12 units of course weight)
RLS 440 Professional Practicum (6 units of course weight)
RLS 441 Practicum Seminar
Pattern Foundation, or Pattern Recreation, or Pattern-Related Option

Second Term (Group A Students) (18 units of course weight)
RLS 443 Perspectives on Leisure and Recreation Research
RLS 444 Issues in Recreation Practice
12 units of course weight from Pattern Foundation, or Pattern Recreation, or Pattern-Related Option

Second Term (Group B Students) (18 units of course weight)
RLS 442 Post-Practicum Seminar
RLS 443 Perspectives on Leisure and Recreation Research
RLS 444 Issues in Recreation Practice
9 units of course weight from Pattern Foundation, or Pattern Recreation, or Pattern-Related Option

Note: Students who entered the revised BA Recreation Administration degree program prior to the 1991-92 Winter Session should have taken RLS 121 Method and Materials for Recreation Instructors during their preprofessional year. As a result they have to take both RLS 322 Sociological and Anthropological Perspectives on Leisure and RLS 323 Leisure and Human Behaviour during the First Term in the First Year of the program.

163.4 The Combined BPE/BEd Degrees Program

Beginning with the 1990-91 Winter Session, st dents were selected for the first time for enrollment the combined BPE/BEd degrees program taking a fiv year program consisting of 162 units of course weig During this five-year program, Physical Education cours and Education courses will be studied concurrent Students will initially apply for admission to the Facu of Physical Education and Recreation and will be consider to be registered in that Faculty for the first three years the program. Following this, they apply for admission the Faculty of Education in order to complete the r quirements of the combined degrees program. T following regulations apply to the progression of st dents' admission and promotion through the program

(1) To gain admission to the first three years of t combined program, students apply for admission the Faculty of Physical Education and Recreatio The top 20 qualified applicants will be admitted Year 1 of the BPE/BEd degrees program provid they meet the quota standards of the BPE progra

(2) Students will be promoted to Year 2 of the combin degrees program provided they obtain GPA's of least 5.5 on the 11 first-year courses of the first ye of the combined program. Those students w obtain a GPA of less than 5.5 may enter the BE degree program provided they meet the acaden standings required (see §162.3).

(3) Continuing BPE/BEd students (with GPA's of least 5.5 on the 11 courses of the second year) pl the top qualified college transfer students will promoted/admitted to Year 3. Those students w GPA's of less than 5.5 may enter the BPE degr program provided they meet the academic standin required (see §162.3).

(4) During year 3, all qualified BPE/BEd students m apply for admission to the Faculty of Educati (application deadline: March 1) and will be cons ered along with Physical Education majors in t Faculty of Education for quota places of the Second Education (Physical Education) Route. Unsucce ful applicants may stay in the Faculty of Physi Education and Recreation to complete the fou year of the BPE degree program.

(5) Students who successfully complete Years 4 an of the BPE/BEd combined degrees program wit CGPA of 5.5 will be awarded their respective grees.

Quota and Registration Limitations

Students applying to enter the combined degre program must meet all quota requirements for the Fa ulty of Physical Education and Recreation. The princi factor in admission decisions will normally be the a demic record. Results of an interview will also be tak into account along with the other factors identified §162.1 of the Calendar. Students in the combi degrees program must apply for admission to the Facu of Education during the third year of their program must meet all requirements for entry to that Faculty that time.

Students enrolled in the combined degrees progr must register as full-time students each year of t program. Students withdrawing for a period of time m meet the requirements set out in §162.5 of the Calen

Admission Requirements

Applicants seeking admission to the combined grees program must meet the admission requireme of the Bachelor of Physical Education degree progr Applicants must have an overall average of at least 7 on five subjects including:

English 30 (grade of at least 60%
Subject from Group A or C
Subject from Group A or C
Subject from Group C
Physical Education 30 or a Subject from Group C, or D

Other Requirements

Students entering the combined degrees progr expecting to complete teaching certification requ ments must take ED ES 132 (the speech screen t during the first term of registration in the progr Students who do not comply with this regulation will be permitted to register again for Intersession or Wi Session until the speech screen has been complet Students must secure speech clearance prior to see

lmission to the Faculty of Education in third year.
In addition, applicants must provide the following:

) A completed questionnaire providing detailed information on their leadership and physical activity/sport backgrounds;

) Three letters of reference which provide information about applicants' backgrounds, with particular reference to physical activity experience, personal qualities, leadership skills, and communication skills; and

) A medical report.

Students may also be required to attend an interew, conducted by a panel of staff members from the epartment of Physical Education and Sport Studies. he interview is designed to evaluate the applicant's egree of maturity and motivation, initiative, ability to mmunicate, and personal qualities and interests. The terview will also provide students with an opportunity see the facilities at the University of Alberta and to ain further information about the BPE degree and the mbined degrees program.

Students accepted into the combined degrees proam will be registered in the Faculty of Physical Education nd Recreation (Department of Physical Education and ort Studies) during Years 1, 2, and 3 of their five-year ogram. In the two years preceding graduation, students ll be registered in the Faculty of Education (provided ey meet the quota requirements of the Faculty of ducation).

ransfer into the Combined Degrees rogram

Under special circumstances, students may transfer om the University of Alberta BPE degree program or e BEd degree program into the combined degrees ogram, provided they meet all of the admission and urse requirements and provided space allows. Admission ll be based on the normal quota procedures of the aculty of Physical Education and Recreation (BPE egree program), for a specified year as described in 62.1.2 of the Calendar.

Students from other faculties or post-secondary stitutions may apply for entry to the combined degrees ogram provided they meet all of the admission and urse requirements. Admission will be based on the rmal quota procedures of the Faculty of Physical ducation and Recreation (BPE degree program) for a ecified year of the program as described in §162.1(2) the Calendar.

he Combined BPE/BEd Degrees Program

The following is an outline of the combined BPE/Ed degrees program. The sequencing of the course ken in the program does not allow for much flexibility roughout the five years; therefore, students are adsed to plan their programs carefully.

irst Year

inior English - 6 units of course weight
ANCE 100 The Spectrum of Dance in Society
ESS 100 Structural Anatomy
ESS 110 Physical Fitness Theory and Practice
ESS 120 Introduction to Athletic Therapy
ESS 140 Adapted Physical Education
inor Subject
inor Subject

wo of:

D PR 151 A Study of Classroom Behavior
DFDN 201 Introduction to Canadian Education
DPSY 163 Introduction to Educational Psychology: Development

econd Year

ESS 150 Introduction to the Administration of Sport and Physical Education Programs
ESS 180 Introduction to Outdoor Education
ESS 201 Biomechanics
ESS 294 Introduction to the Movement Activities of Youth
inor Subject
inor Subject

ne of:

D PR 151 A Study of Classroom Behavior
DFDN 201 Introduction to Canadian Education
DPSY 163 Introduction to Educational Psychology: Development
iducation Option
omputing Science Option
AC Course(s)* - 3 units of course weight
ption

*PAC courses must include one course (minimum 5 units of course weight) in each of swimming, gymnastics, ack and field, and two courses (minimum 3 units of urse weight) in the games area. A minimum of two AC courses must be done at the 300- or 400-level.

These courses in conjunction with DANCE 100, PESS 110, and PESS 180 will meet the requirements for activity in the BEd degree program.

Third Year**

PESS 203 Skill Acquisition and Performance
PESS 204 Sociocultural Foundations of Physical Education and Sport
PHYSL 260 Elementary Physiology

One of:

PESS 302 Motor Learning, Memory and Control
PESS 303 Psychology of Sport
PESS 307 Growth and Development

One of:

PESS 304 Sociology of Physical Education and Sport
PESS 401 History of Physical Education and Sport
PESS 402 History of Physical Education and Sport in Canada
PESS 407 Philosophy of Physical Education and Sport
PAC Course(s) Equivalent of three weights.
PAC Course(s) Equivalent of three weights.
Minor Subject
Minor Subject
Education Option

**Students must apply for admission to the Faculty of Education during this year (application deadline: March 1). Students in good standing who do not gain entry to the Faculty of Education will remain in the Faculty of Physical Education and Recreation and complete their BPE degree in Year 4.

Fourth Year

EDSEC 200 Teaching in the Secondary Schools
EDPSY 371 Learning, Instructional Psychology, and Educational Practice
ED PR 353 Student Teaching in the Secondary School II
EDFDN Option
Education Option/Minor

One of:

PESS 302 Motor Learning, Memory and Control
PESS 303 Psychology of Sport
PESS 307 Growth and Development

One of:

PESS 304 Sociology of Physical Education and Sport
PESS 401 History of Physical Education and Sport
PESS 402 History of Physical Education and Sport in Canada
PESS 407 Philosophy of Physical Education and Sport
PAC Course(s) Equivalent of 3 units of course weights
PAC Course(s) Equivalent of 3 units of course weights
Option
Option

Fifth Year

EDSEC 349 Curriculum and Teaching in Secondary School Physical Education I
EDSEC 350 Curriculum and Teaching in Secondary School Physical Education II
ED PR 354 Campus Based Practicum - Secondary Education
ED PR 370 Student Teaching in the Secondary Schools III [★6, eight weeks]
PESS Option
PAC Course(s) - Equivalent of 3 units of course weights
PESS 490 Applied Ethics in Physical Education and Sport
EDADM 401 The Role of the Teacher

One of:

EDPSY Option
EDFDN 493 Basic Issues in Contemporary Education
EDFDN 495 Developing a Philosophy of Education

Academic Standing and Graduation

Admission to, and continuation in the combined BPE/BEd degrees program, requires a cumulative grade point average (CGPA) of at least 5.5. Students who do not meet this requirement are required to withdraw from the combined program and will be allowed to continue in the BPE degree program provided they meet the necessary standards (GPA of 5.0, QI of 4.0). To receive the BEd and the BPE degrees concurrently, students must have completed all the requirements of the combined program and must meet the requirements for graduation for each degree (see §72.7 and §162.3 of this Calendar).

163.5 Teacher Education

Students interested in an area of concentration in elementary school physical education or a secondary school physical education major within the Bachelor of Education program should consult the Faculty of Education section of this Calendar.

163.6 Graduate Study

The Department of Physical Education and Sport Studies offers programs leading to the degrees of MA, MSc, and PhD, for students holding a four-year BPE, or equivalent.

The Department of Recreation and Leisure Studies offers programs leading to a MA (Recreation) for students holding a four-year BA in recreation, or equivalent.

For further information write to the Chair, Graduate Committee of the appropriate department, Faculty of Physical Education and Recreation, University of Alberta, Edmonton, Alberta, T6G 2H9.

164 Details of Courses

164.1 General Information

Courses open to students in the Faculty of Physical Education and Recreation are listed here in groups, as follows: courses in the BPE program; courses in the BA (Recreation Administration) program; and graduate courses in Physical Education and Sport Studies, and Recreation and Leisure Studies.

Each course is designated by its computer abbreviation and a number. Following the title of the course is the symbol "★" standing for "units of course weight", and a number indicating the weight of the course as used in computing grade-point averages. An ordinary full-session course is weighted ★6. A single-term course is normally weighted ★3.

The next three figures, enclosed in parentheses, indicate the hours of instruction required by the course in a week. The format is as follows: the first position indicates lecture hours; the second position indicates seminar hours (s), demonstration (d), clinic (c), or lecture-lab (L); and the third position indicates laboratory hours. The hours of instruction for a full-session course are the same in both terms unless otherwise indicated. If the course is a single-term course, the term in which it may be offered is mentioned before the hours of instruction.

The appearance of a course description in the following list does not constitute any guarantee that the course will actually be offered in the forthcoming session. Information as to which courses will be offered, the names of the instructors, and all further details must be sought from the department concerned.

Physical Requirements for University Courses

The University has a commitment to the education of all academically qualified students and special services are frequently provided on campus to assist disabled students.

Nevertheless, some courses make certain unavoidable demands on students, with respect to the possession of a certain level of physical skill or ability, if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the Department concerned and the Disabled Student Services Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for all off-campus courses, instructors may be obliged to refuse registration in such courses.

164.2 Courses in the BPE Program

Note: Activity-course dress requirement for first class. Students are expected to attend the first class of any activity course appropriately dressed for activity participation. Information concerning dress for each activity course will be available through the Department of Physical Education and Sport Studies.

164.2.1 Courses in Dance

DAC 100 The Spectrum of Dance in Society
★3 (first term, 1-0-3). The theory and practice of dance as a human physical activity. Focus will be on the aesthetic, expressive, rhythmical dimensions of movement in a culture's artistic and social life. The study will include movement content, techniques, improvisation, composition and performance in a variety of dance forms including modern/creative, social, jazz, and folk dance. for first year BPE students only.

DAC 155 Social Dance
★1.5 (either term, 0-3L-0). Personal skill acquisition in several variations and sequences of the foxtrot, waltz, tango, jive, rumba, and cha cha. Integral to this will be the development of good partnering and rhythmic abilities.

DAC 160 Jazz Dance
★1.5 (either term, 0-3L-0). Personal skill acquisition in body awareness and placement, locomotion and choreographed jazz dance.

DAC 165 Ballet
★1.5 (either term, 0-3L-0). Personal skill acquisition in either RAD or Cecchetti syllabus, including barre and centre floor work such as positions, port de bras, elevation and travelling.

DAC 199 Dance Activity — Level I
★1.5 (either term, 0-3L-0) Personal skill acquisition in a dance activity.

DANCE 300 Dance History and Philosophy
★3 (either term, 3-0-0). The history and philosophy of dance from primitive times to the present. Special emphasis will be on major forms of dance in the 20th Century, dance in Canadian culture and personalities who have influenced dance in art and culture.

DANCE 310 Dance/Movement Accompaniment
★3 (either term, 0-3L-0). The study and practice of using sound, percussion and music to accompany dance, movement, gymnastics and exercise. Offered in alternate years.

DANCE 340 Modern Dance
★3 (either term, 3-0-0). The study of creative dance techniques, improvisation, composition, and performance through theory and practical experience.

DANCE 345 Modern Dance Techniques
★3 (either term, 3-0-0). Development of personal movement skills in a variety of modern dance techniques combined with knowledge of movement and dance principles.

DANCE 350 International Folk Dance
★3 (either term, 3-0-0). The study of folk dances in selected cultures through theory and practical experience. Theory will focus on costume, music, history, geography, and other elements which influence the dances.

DAC 355 Social Dance
★3 (either term, 3-0-0). Theory and practice of social (ballroom) dance forms. Prerequisite: DAC 155 or consent of Department.

DAC 360 Dance Forms
★3 (either term, 3-0-0). Theory and practice of jazz dance. Prerequisite: DAC 160 or consent of Department.

DANCE 395 Practicum in Choreography and Production
★3 (0-3L-0). Students shall choreograph a major dance. All theatrical aspects will be researched and designed. Involvement in Orchesis required. Prerequisite: DANCE 100 or DANCE 340 plus DANCE 345 and 446, or consent of Department. Note: A three credit course offered over the full session.

DANCE 431 Study of Dance for Children
★3 (second term, 1-2s-0). Children's dance from the perspective of the child as creator, performer and spectator. Opportunities to observe, work with and perform for children will be provided. Prerequisite: PESS 292, 293, or 330 or consent of Department.

DANCE 433 Creative Dance for Young Children
★3 (first term, 0-3s-0). A study of creative dance as an integral aspect of the aesthetic and creative education of the child up to eight years of age. The interrelationships of creative dance with the young child's use of language, rhyme, story, music and painting will be examined. Prerequisite: PESS 292 or consent of Department.

DANCE 446 Modern Dance Composition
★3 (either term, 3-0-0). Theory and practice of modern dance improvisation and composition, principles of form and design, individual and group choreography, evaluation. Prerequisite: One of DANCE 100, 340, 431 or 433 or consent of Department.

DANCE 495 Dance Lecture—Demonstration Practicum
★3 (0-3L-0). Students will create and perform a dance lecture/demonstration. Prerequisite: One of DANCE 100, 340, 431, 433, plus DANCE 345 and 446, or consent of Department. Note: A course worth three units of course weight offered over the full session.

DANCE 496 Practicum in Dance Instruction
★3 (either term, 1-0-3). Students will be supervised in the instruction of dance classes. They will plan, instruct, and evaluate classes in selected environments. Prerequisite: One of DANCE 100, or 340, or 431, 433, plus DANCE 345 and 446, or consent of Department.

DANCE 497 Selected Topics in Dance
★3 (either term, 3-0-0). A course offered on a topic of current interest in dance. Prerequisite: Consent of Department.

DANCE 499 Directed Studies
★3 (either term, 0-3s-0). An individualized course designed to offer an in-depth study in a dance area not covered by regular courses. Prerequisite: Consent of Department.

164.2.2 Courses in Health Education

HE ED 210 Introduction to Health Promotion
★3 (either term, 3-0-0). This course is designed to introduce students to the concepts of the health promotion model with emphasis on self-care and the interaction effects of the various components of well-being.

HE ED 310 Family Life Education for Secondary Schools I
★3 (first term, 1-2s-0).

HE ED 311 Health and Fitness Assessment and Prescription
★3 (either term, 3-0-2). Students will gain knowledge in fitness and lifestyle appraisal, in program prescription, and community health and fitness needs assessment. For BPE students in the Fitness and Health Promotion Route only or with permission of the departments. Prerequisite: PESS 209 and PESS 300.

HE ED 331 Community Health I
★3 (first term, 3-2s-0). A introduction to community health problems. Prerequisite: HE ED 210 and 333 or consent of Department.

HE ED 333 Health Education in Secondary Schools II
★3 (second term, 3-0-0). A review of various aspects of theory and practice of school health education with considerable emphasis on recent literature for the teacher and student. Prerequisite: HE ED 210.

HE ED 336 Health Education for the Classroom Teacher
★3 (either term, 3-0-0).

HE ED 337 Seminar in Elementary School Health Education I
★3 (first term, 0-3s-0). An advanced examination of principles and practices of health education applied to elementary school education. Prerequisite: HE ED 336 or consent of Department.

HE ED 415 Practicum in Health and Fitness Assessment and Counselling
★3 (0-6L-0). Seminars and fieldwork experience under the supervision of a Certified Fitness Appraiser. For BPE students in the Fitness and Health Promotion route only. A half-term course offered in either term or the full session. Prerequisite: HE ED 311.

HE ED 431 Community Health II
★3 (second term, 3-2s-0). A detailed analysis of problems related to community health and their relationship to the school. Prerequisite: HE ED 331. For BPE students in the Fitness and Health Promotion Route only.

HE ED 434 Family Life Education for Secondary Schools II
★3 (second term, 3-2s-0). A study of aspects of family life education with emphasis on understanding self and relationships with family members. Prerequisite: HE ED 332.

HE ED 437 Seminar in Elementary School Health Education II
★3 (second term, 0-3s-0).

164.2.3 Courses in Physical Activity

PAC 100 Swimming
★1.5 (either term, 0-3L-0). Personal skill acquisition in the front and back crawl, breaststroke, sidestroke, and elementary backstroke. Selected aquatic skill techniques are also required.

PAC 111 Basketball
★1.5 (either term, 0-3L-0). Personal skill acquisition in individual and team activities.

PAC 112 Field Hockey
★1.5 (either term, 0-3L-0). Personal skill acquisition in individual and team activities.

PAC 113 Football
★1.5 (either term, 0-3L-0). Personal skill acquisition in individual and team activities.

PAC 114 Ice Hockey
★1.5 (either term, 0-3L-0). Personal skill acquisition in individual and team activities. Prerequisite: Average to above average skating ability. Students must provide their own equipment: Skates, sticks, hockey gloves, helmets, elbow and shin pads.

PAC 117 Rugby
★1.5 (either term, 0-3L-0). Personal skill acquisition
individual and team activities. Mouth guards recommende

PAC 118 Soccer
★1.5 (either term, 0-3L-0). Personal skill acquisition
individual and team activities.

PAC 131 Badminton
★1.5 (either term, 0-3L-0). Personal skill acquisition
individual and team activities. Students must supply ov
racquets and shuttlecocks.

PAC 133 Racquetball
★1.5 (either term, 0-3L-0). Personal skill acquisition
individual and team activities. Students must supp
their own equipment: Racquets, balls, and eye guards

PAC 134 Squash
★1.5 (either term, 0-3L-0). Personal skill acquisition
individual activities. Students must supply their ov
equipment: Racquets, balls, and eye guards.

PAC 135 Tennis
★1.5 (either term, 0-3L-0). An introduction to the bas
tennis strokes (forehand, backhand, serve, and volle
and strategies. Students must provide their own equipme

PAC 137 Volleyball
★1.5 (either term, 0-3L-0). Focus on personal skill acq
sition in the fundamental skills of volleyball. Students v
be taught in individual and small group settings.

PAC 140 Baseball/Fastball
★1.5 (Intersession, 0-3L-0). Personal skill acquisition
individual and team activities.

PAC 145 Golf
★1.5 (either term, 0-3L-0). Personal skill acquisition
driving, chipping, pitching and putting. $35.00 will
charged for green and range fees. Students must pr
vide their own equipment.

PAC 154 Wrestling
★1.5 (either term, 0-3L-0). Personal skill acquisition
takedowns and groundwork.

PAC 160 Gymnastics
★1.5 (either term, 0-3L-0). Personal skill acquisition
the fundamental movements common to all forms
gymnastics.

PAC 163 Figure Skating
★1.5 (either term, 0-3L-0). Personal skill acquisition
edges, forward inside and outside figure eights, one fo
spin, spirals, crossovers and jumps. Must provide o
figure skates.

PAC 166 Power Skating
★1.5 (either term, 0-3L-0). Personal skill acquisition
skating balance, edge control, agility, and striding
hockey. Students must provide own skates and stic
Full hockey equipment recommended.

PAC 170 Track and Field
★1.5 (either term, 0-3L-0). Personal skill acquisition
the sprints, long jump and shot put.

PAC 171 Track and Field
★1.5 (either term, 0-3L-0). Personal skill acquisition
hurdling, high jumping and discus throwing.

PAC 172 Track and Field
★1.5 (either term, 0-3L-0). Personal skill acquisition
distance running, triple jumping, javelin throwing a
pole vaulting.

PAC 180 Canoeing and Kayaking
★1.5 (either term, 0-3L-0). Personal skill acquisition
strokes, maneuvers and rescue. Prerequisite: PAC 2
or consent of the Department.

PAC 181 Cross Country Skiing
★1.5 (second term, 0-3L-0). Personal skill acquisition
individual activities. Note: One required day trip will
scheduled on a weekend during this course. Stude
must supply their own equipment. Equipment is availa
from the Campus Outdoor Centre for a $30.00 user fe

PAC 182 Rock Climbing
★1.5 (either term, 0-3L-0). Personal skill acquisition
basic climbing techniques, rope management, and bela

PAC 199 Physical Activity - Level I
★1.5 (either term, 0-3L-0). Personal skill acquisition
an individual or team activity.

PAC 300 Advanced Aquatics
★3 (either term, 3-0-0). This course is designed to introd
the swimmer to advanced stroke and skill techniqu
Selected topics related to RLSS Bronze Medallion r
also be included. Prerequisite: PAC 100 or must be abl
swim 300 metres non-stop. Proficiency in front crawl
back crawl, breaststroke, sidestroke and element
backstroke must be demonstrated.

PAC 301 Synchronized Swimming
★3 (either term, 3-0-0). This course will include pract
and theoretical sessions on synchronized swimming
a recreational and competitive sport. Personal s
development will be pursued. Course contact a

mines aspects of instructing, judging and coaching sport. Prerequisite: PAC 100; Red Cross White nior) Level is desirable.

: 303 Skin and Scuba Diving
(second term, 3-0-1). The scientific principles of skin scuba diving and their practical application to the rt of skin and scuba diving. Course may lead to ba certification at the National level (PADI, NAUI, UC). Students must provide their own snorkel gear sk, fins, snorkel, weight belt and gloves). A fee will charged for air used. Prerequisite: PAC 100, Red ss Maroon (Intermediate) Level or equivalent; lifesaving ning at the RLSS Bronze is highly desirable. All ients should be prepared to participate in a Spring in order to experience open-water diving.

: 305 Water, Snow and Ice Activities for dren and Youth
(second term, 0-3s-0). The similarities and differ- es of activities suitable for presentation to beginners e three environments will be studied through practi- and theoretical experience.

: 311 Analysis and Instruction of Basketball
either term, 3-0-0). The theory, practice, and teach- of the fundamental skills of basketball. Prerequisite: 111 or consent of Department.

: 312 Analysis and Instruction of Field and or Hockey
first term, 3-0-0). The theory, practice and teaching e techniques of outdoor and indoor field hockey. phasis on skill acquisition. Prerequisite: PAC 112 or ent of Department.

: 313 Analysis and Instruction of Football
first term, 3-0-0). Development of individual skills as as basic unit and team play. Coaching fundamen- and administrative skills are discussed. This course nclusive of the content of the NCCP (Football) nical Levels I and II. Prerequisite: PAC 113 or ent of Department.

: 314 Analysis and Instruction of Ice Hockey
either term, 3-0-0). The theory, practice, and teach- of fundamental team play. Emphasis will be on the lopment of concepts and strategies from which ctive systems are created. Students must provide own equipment: Skates, stick, helmet, hockey es, elbow and shin pads. Prerequisite: PAC 114 or ent of Department.

317 Analysis and Instruction of Rugby
first term, 3-0-0). The theory, practice, and teaching e fundamental skills of rugby. Prerequisite: PAC or consent of Department.

318 Analysis and Instruction of Soccer
first term, 3-0-0). The theory, practice, and teaching e fundamental skills of soccer. Emphasis on skill isitions and analysis. Prerequisite: PAC 118 or ent of Department.

320 Structure and Strategy of Games
either term, 1-2s-0). A study of similarities and rences in games (sports) through an examination of specific rules, skills and strategies. Class members be exposed to experiences at the practical and retical levels in the categories of territory, target, and court games.

331 Analysis and Instruction of Badminton
either term, 0-3L-0). Theory and practice of the and strategies of badminton. Students must pro- their own racquets and shuttlecocks. Prerequisite: 131 or consent of Department.

333 Analysis and Instruction of Racquetball
either term, 0-3L-0). The theory, practice, and ning of the skills and strategies of racquetball. ents must provide their own racquets, balls, and guards. Prerequisite: PAC 133 or consent of Depart- .

334 Analysis and Instruction of Squash
either term, 0-3L-0). The theory, practice, and ning of the skills and strategies of squash. Students provide their own racquets, balls, and eye guards. quisite: PAC 134 or consent of Department.

335 Analysis and Instruction of Tennis
either term, 0-3L-0). Theory and practice of the and strategies of tennis. Students must provide own racquets, balls, and proper shoes. Prerequi- PAC 135 or consent of Department.

337 Analysis and Instruction of Volleyball
either term, 3-0-0). The theory, practice and teach- f the fundamental skills of volleyball. Emphasis will n skill acquisition and fundamental team systems. quisite: PAC 137.

345 Analysis and Instruction of Golf
first term, 3-0-0). The theory, practice, and teaching fundamental skills of golf. A fee of $35.00 will be ed for green and range fees. (For BPE students . Prerequisite: PAC 145 or consent of Department.

PAC 354 Analysis and Instruction of Freestyle Wrestling
★3 (either term, 3-0-0). Emphasis on wrestling takedown and groundwork techniques. Includes theory, history, officiating and coaching principles. Prerequisite: PAC 154 or consent of Department.

PAC 355 Introduction to Yoga
★3 (either term, 3-0-0). Emphasis on philosophy, scientific basis and unique yoga approach to fitness and stress management along with practice of yoga asanas.

PAC 360 Analysis and Instruction of Gymnastics
★3 (either term, 3-0-0). Provides theoretical and practical foundations common to recreational and competitive gymnastics. May lead to certification in Level I NCCP. Prerequisite: PAC 160 or consent of Department.

PAC 361 Analysis and Instruction of Educational Gymnastics
★3 (either term, 1-2s-0). Progressive educational gymnastics themes, based upon movement concepts, are developed at practical activity and theoretical levels. Course instruction reflects primarily problem solving and discovery techniques to allow individuals and small groups to select and develop themes appropriate for apparatus and floor work. Prerequisite: PAC 160 or consent of Department.

PAC 362 Analysis and Instruction of Competitive Forms of Gymnastics
★3 (second term, 3-0-0). A program of practical skills and visual analysis leading towards intermediate skill development in the competitive forms. Prerequisite: PAC 160. Note: Offered only in alternate years to PAC 460.

PAC 370 Analysis and Instruction of Track and Field Events I
★3 (either term, 3-0-0). Sprinting, hurdles, long-jump, high jump, triple jump, pole vault, and related strength training. Prerequisite: Two of PAC 170, 171, and 172.

PAC 371 Analysis and Instruction of Track and Field Events II
★3 (either term, 3-0-0). Distance running, relays, shot, discus, hammer, javelin, and related strength training. Prerequisite: Two of PAC 170, 171, and 172.

PESS 375 Practicum in Instuction of Physical Activity
★3 (either term, 0-4L-0). Supervised experiences in instruction of physical actitity. Prerequisite: Pess 170 and credit in Level II activity course in the acitvity of the practicum, or consent of Department.

PAC 380 Analysis, Instruction, and Leadership of Canoeing and Kayaking
★3 (Intersession, 0-2s-4). The theory and practice of canoe and kayak instruction and trip leadership appropriate for various populations. Opportunities may be given to attempt ARCA/Red Cross and CRCA certification. A $30.00 equipment user fee is charged. Prerequisite: PAC 180 or consent of Department.

PAC 381 Analysis, Instruction, and Leadership of Cross-Country Skiing
★3 (second term, 0-2s-4). The theory and practice of nordic ski instruction and leadership appropriate for various populations. Opportunities may be given to attempt CANSI and CSA Tour Leader certification. Note: A five-day required ski tour will normally be scheduled during Reading Week. Equipment is available to rent at a fee of $40.00. Prerequisite: PAC 181 or consent of Department.

PAC 399 Physical Activity - Level II
★3 (either term, 3-0-0). The theory, practice and teaching of the fundamental skills of an individual or team activity. Prerequisite: Consent of Department.

PAC 400 Principles of Aquatic Instruction
★3 (either term, 3-0-0). The course will include practical and theoretical sessions on aquatic instruction techniques. Advanced skill development will also be pursued. Certification at the Instructor's level is optional provided students meet all requirements. Prerequisite: PAC 300 or RLSS Bronze Medallion or the equivalent in swimming skills.

PAC 401 Coaching Competitive Swimming
★3 (either term, 3-0-0). The course is designed to introduce the student to competitive coaching techniques and skills necessary for National Coaching Certification (Technical Level I and II). Prerequisite: PAC 300, 400 or equivalent.

PAC 411 Basketball Coaching
★3 (either term, 3-0-0). Emphasis on the coaching and the organization of basketball programs. Prerequisite: PAC 311 or consent of Department.

PAC 412 Field Hockey Coaching
★3 (second term, 3-0-0). Emphasis on how to teach and coach techniques, skills, systems of play and strategies of both indoor and outdoor field hockey. Prerequisite: PAC 312 or consent of Department.

PAC 413 Football Coaching
★3 (either term, 3-0-0). Emphasis on coaching theory, offensive, defensive and special teams systems. Prerequisite: PAC 313 or consent of Department.

PAC 414 Ice Hockey Coaching
★3 (second term, 3-0-0). Analysis of the roles and responsibilities of the coach (philosphy, team systems, strategies, and communication). Prerequisite: PAC 314 or consent of Department.

PAC 418 Soccer Coaching
★3 (first term, 3-0-0). The course aims to increase the student's knowledge and ability in soccer to an advanced level. To provide opportunities for further improvement in coaching and teaching soccer (individual and team tactics, game analysis, development of playing systems, and teaching methodology). Prerequisite: PAC 318 or consent of Department.

PAC 425 The Study of Games for Children
★3 (either term, 1-2s-0). A study in depth of the games played by children in informal situations and in organized programs. Opportunities to observe and work with children will be provided. Prerequisite: One or more of PESS 292, 293, 330, or PAC 320.

PAC 437 Volleyball Coaching
★3 (either term, 3-0-0). Emphasis on coaching techniques, team tactics and coaching philosophies. Prerequsite: PAC 337.

PAC 445 Advanced Golf
★3 (first term, 2-0-2). Advanced golf techniques, swing analysis, teaching methodology and golf program development. Prerequisite: PAC 345 or consent of Department. A fee of $35.00 will be charged to cover cost of film analysis materials, range fees and green fees.

PAC 454 Wrestling Coaching
★3 (second term, 3-0-0). The course is designed to give students practical experience coaching and administering freestyle wrestling. Prerequisite: PAC 354 or consent of Department.

PAC 460 Gymnastics Coaching
★3 (second term, 3-0-0). Designed to provide theory of and experience in a variety of technical aspects of gymnastics, including coaching, spotting, officiating, judging and meet administration. Prerequisite: PAC 362 or consent of Department. Taught only in alternate years to PAC 362.

PAC 465 The Study of Gymnastics for Children
★3 (second term, 1-2s-0). A study of a variety of gymnastic programs from the perspective of their potential to meet the needs of children at various ages. Class members will be required to plan, present and evaluate gymnastic activities for children. Prerequisite: One of PESS 292, 293, 330, PAC 361 or consent of Department.

PAC 470 Track and Field Coaching
★3 (either term, 3-0-0). Development of coaching skills for track and field. Prerequisite: PAC 370 and/or PAC 371 or consent of Department.

164.2.4 Courses in Physical Education and Sport Studies

PESS 100 Structural Anatomy
★3 (first term, 3-0-2). The study of the structure of the human body. For BPE and Nursing students only.

PESS 110 Physical Fitness Theory and Practice
★3 (either term, 2-0-2). Knowledge and understanding of basic concepts of fitness and nutrition with practical applicaton geared to individual needs. For BPE students and BEd PE majors only.

PESS 120 Introduction to Athletic Therapy
★3 (either term, 3-0-1.5). Analysis of practical and theoretical concepts of athletic therapy. Includes an overview of sports medicine, care and prevention of injuries, and safety in athletics and physical education. A fee of up to $25.00 will be charged for lab supplies. Prerequisite: PESS 100. For BPE students only.

PESS 140 Adapted Physical Education
★3 (either term, 2-0-2). An introduction to the current trends in the theory and practice in adapted physical education. The course includes a survey of handicapping conditions and methods of dealing with them in integrated programs. Non-BPE students require consent of Department.

PESS 150 Introduction to the Administration of Sport and Physical Education Programs
★3 (either term, 3-0-1). This course provides students with the basic skills required to successfully administer a sport and/or physical education program. For BPE and BEd PE majors or consent of Department.

PESS 170 Leadership and Instruction in Physical Activity
★3 (second term, 2-0-2). An introduction to the theory and practice of leadership and instruction in physical activity settings. Instructional techniques are applied to a variety of activities and environments in order to enhance the development of instructional skills which can promote skill learning. For BPE students only.

PESS 180 Introduction to Outdoor Education
★3 (either term, 3-0-3). A conceptual and experiential introduction to outdoor environmental education and leadership. In addition to weekly lecture and lab components, the course includes weekend camping. A user's fee of $30.00 is charged for equipment maintenance.

PESS 201 Biomechanics
★3 (first term, 3-0-0). A systematic procedure for qualitative analysis of human motion is presented. Students proceed from the identification of mechanical principles governing motion through to the formation of deterministic models and observational strategies. . For BPE students only.

PESS 203 Skill Acquisition and Performance
★3 (either term, 3-0-0). The course is designed to examine the theory of skill acquisition and performance throughout the lifespan in typical sport and physical activity situation. For BPE students only.

PESS 204 Sociocultural Foundations of Physical Education and Sport
★3 (either term, 3-0-0). A societal study of the function of play and games as a basis for understanding the sociocultural foundations of sport and physical education. For BPE students only.

PESS 209 Measurement and Evaluation
★3 (either term, 3-0-0). A survey of methods and techniques for evaluating the nature of physical activity programs and participants. Emphasis on practical application of tests and measurement related to a variety of sport, community and institutional settings. For BPE students only.

PESS 260 Introduction to Coaching
★3 (either term, 3-0-0). This course introduces the student to a variety of coaching topics of both a theoretical and a practical nature. This course is inclusive of the content of the NCC Program (Theory Levels I and II).

PHYSL 260 Elementary Physiology
★6 (3-0-0; 3-0-1). Introduction to human physiology from the cellular to systemic level, with special emphasis on systems which adapt to exercise stress. For BPE students only.

PESS 292 Introduction to the Movement Activities of Children Aged 0-8
★3 (either term, 0-3s-0). A study of free play and organized physical activities of young children in recreational, educational, and sports environments. Class members will engage in practical physical activity and the observation of children. This course is not open to students who have received credit for PESS 293 or equivalent.

PESS 293 Introduction to the Movement Activities of Children Aged 5-12
★3 (either term, 0-3s-0). A study of free play and organized physical activities of school age children in recreational, educational, and sport environments. Class members engage in practical physical activity and the observation of children. This course is not open to students who have received credit for PESS 292 or equivalent.

PESS 294 Introduction to the Movement Activities of Youth
★3 (either term, 1-2s-0). A study of the fundamental movement concepts that underlie the physical activities engaged in by youth of secondary school age.

PESS 300 Physiology of Exercise
★3 (either term, 3-0-2). An introduction to physiological adaptations to stress of exercise and training. Prerequisite: PHYSL 260 or equivalent.

PESS 301 Quantitative Biomechanics of Physical Activity
★3 (either term, 3-0-0). Research techniques in the analysis and synthesis of human movement. Topics include linear and angular kinematics and kinetics, photo instrumentation, body segment parameters, the link segment model and work-energy relationships. Prerequisite: PESS 201 or consent of Department.

PESS 302 Motor Learning, Memory and Control
★3 (first term, 3-0-0). An introduction to the processes involved in the learning, memory, and control of human movement; with application to teaching, coaching, and competitive games. Prerequisite: PESS 203 or consent of Department.

PESS 303 Psychology of Sport
★3 (first term, 3-0-0). Play theory; personality structure and dynamics of athletics, motivational indices in physical activities and competitive athletics and attitudes toward physical activity. Prerequisite: PSYCO 104 or PESS 203 or successful completion of the first two years of the BPE program at the University of Alberta.

PESS 304 Sociology of Physical Education and Sport
★3 (either term, 2-1s-0). The characteristics, processes, and problems of sport as a social system with particular reference to North American society. Prerequisite: PESS 204 or consent of Department.

PESS 305 Sport Studies Route Practicum I
★3 (either term, 0-3L-0). An individual project or work on ongoing research (in a laboratory or field setting) or the equivalent under the supervision of an adviser. A contractual arrangement is made between the student and route adviser as to the nature of the practicum. For BPE Sport Studies Route students only.

PESS 307 Growth and Development
★3 (first term, 3-0-0). A study of the sequential changes in physical growth and motor development with emphasis on individual differences. For BPE students only. Prerequisite: PESS 203.

PESS 308 Motor Development and Motor Learning
★3 (either term, 3-0-0). A study of those relationships between physical maturation and environmental factors which can influence the acquisition of motor skills. Not for BPE degree credit.

PESS 309 Introduction to the Scientific Basis of Human Movement
★3 (either term, 3-0-0). Lecture course with an emphasis on introductory knowledge and practical implications of the structural and functional characteristics and capacities of the human body with respect to movement. Not for BPE degree credit.

PESS 310 Advanced Conditioning Methodology
★3 (either term, 3-0-0). Theoretical basis of conditioning programs. Emphasis on metabolic and physiological rationale for selected regimens. Prerequisite: PESS 300 or consent of Department.

PESS 314 Body Composition and Physical Activity
★3 (either term, 3-0-0). Emphasis on assessment and evaluation of body composition. Other topics include the role of physical activity in obesity and nutritional requirements necessary for athletic performance. Prerequisite: PESS 110. For BPE students only.

PESS 315 Practicum in Fitness Leadership and Instruction
★3 (either term, 0-3L-0). This course includes 20 hours of seminar work plus 40 hours of fieldwork in fitness instruction under the supervision of a Certified Fitness Leader. For BPE students in the Fitness and Health Promotion route only. Prerequisite: PESS 110, 170, and 300.

PESS 325 Practicum in Athletic Therapy Techniques
★3 (0-3L-0). A practicum in Athletic Therapy designed to provide students with experiences in on-field assessment and management of injuries as they may occur in sport and physical education settings. Students will work under the close supervision of the attending therapist/physician. Students must attend all scheduled seminars in addition to completing the fieldwork requirements. Students must complete the First Responder first aid course at a cost of $150.00. Prerequisite: PESS 120. For Athletic Therapy Route students only. Note: A three-credit course offered over the full session.

PESS 330 Physical Activity and Sport for Children
★3 (either term, 0-3s-0). This course will be an introductory course focusing on the child from birth to twelve years of age in a wide range of physical activities in both free and structured environments. It will look at activities offered in home, recreational, educational and competitive environments. There will be emphasis on the developing capabilities of the child and the most appropriate types of activity for any age or stage of development. For BPE students only.

PESS 335 Practicum in Physical Activity for Children
★3 (either term, 0-2s-3). Supervised experiences in a physical activity program designed for children. Prerequisite: One of PESS 292, 293, or 330, or consent of Department.

PESS 345 Practicum in Physical Education for the Mentally Handicapped
★3 (either term, 0-2s-2). Supervised experience in physical activity programs for the mentally handicapped. Prerequisite: PESS 140 and consent of Department.

PESS 346 Practicum in Physical Education for the Physically Awkward
★3 (either term, 0-1s-3). Supervised experience in gross motor assessment; prescription of a remedial program; implementation of the program via individual instruction; and leisure counselling of a physically awkward child. Prerequisite: PESS 345 and consent of Department.

PESS 350 Advanced Analysis of the Administrati of Sport and Physical Education Programs
★3 (first term, 3-0-0). Theoretical considerations for organization and administration of sport and phys education programs. Prerequisite: PESS 150. For E students only.

PESS 352 Sports Facilities: Planning, Constructi and Maintenance
★3 (either term, 3-0-0). An examination of the planni design, and construction of physical education and sp facilities. Emphasis will be given as well as to fundi site selection, and political implication.

PESS 360 Applied Principles of Coaching
★3 (first term, 3-0-0). This course will provide stude with knowledge of advanced coaching theory that be effectively applied in select coaching settings. P requisite: PESS 260 or NCC Program (Theory Lev and II).

PESS 365 Coaching Practicum (Participant/ Observer)
★3 (0-3L-0). A practical introduction to coaching un the direction of an approved coach. The student co will be expected to apply the theory content of PE 260 in a coaching setting related to a particular sp This course includes attendance at seminars, selec readings and the presentation of a practicum log. P requisite: PESS 260 or consent of Department. For B students only. Note: A three-credit course offered o the full session.

PESS 375 Practicum in Instruction of Physical Activity
★3 (either term, 0-4L-0). Supervised experience instruction of physical activity to adults. The focus is the processes of planning, instruction and evaluat Prerequisite: PESS 170 and credit in the Level II act course in the activity of the practicum, or consen Department.

PESS 381 Biomedical and Safety Foundations of Outdoor Pursuits
★3 (3-0-3). Topics include: Scientific basis of outd living and travel, risk and safety considerations, emerge procedures, and first aid techniques. Opportunity be provided to complete wilderness emergency certification. A half-course offered in either term or the full session. Prerequisite: PESS 180. For students only.

PESS 382 Wilderness Living, Navigation and Tra
★3 (Intersession, 0-3s-3). Principles and practic individual and group wilderness travel. Includes sur orienteering, backpacking, rock climbing, and se and rescue skills/techniques. A $30 user fee is char Prerequisite: PESS 180.

PESS 383 Outdoor Education Organization and Management
★3 (either term, 3-0-1). This course is concerned the delivery of outdoor education and recreation grams. It will focus on managerial functions such management style, organizing, staffing, supervis programming, marketing, legal liability, and team b ing. There will be day field trips to selected out centres which will involve nominal expenses not excee $30.00 for transportation. Prerequisite: PESS 180, 381 or 382, or consent of Department.

PESS 385 Outdoor Environmental Leadership Practicum I
★3 (either term, 3-0-3). Principles, methods, and su vised practice of outdoor environmental education environmentalism as relevant to those leading an recreating in the natural environment. Prerequi PESS 180.

PESS 401 History of Physical Education and Sp
★3 (either term, 3-0-0). An overview of the s significance of physical education and sport from cient to modern times. Prerequisite: PESS 204.

PESS 402 History of Physical Education and Sp in Canada
★3 (either term, 3-0-0). The course will examine, thr a cultural perspective and in an historical context status and significance of sport and physical educ in Canada, from the period of New France to present. Prerequisite: PESS 204.

PESS 403 Psychology of Coaching
★3 (either term, 3-0-0). The direct implications of scientific psychological principles underlying the co ing of both individual and team sports for pre-adole and adolescent children. Prerequisite: PESS 30 consent of Department.

PESS 404 Comparative Physical Education and S
★3 (either term, 3-0-0). An examination of phy education and sport in selected countries will be us complement an international overview and perspe with special reference to development in Canada.

PESS 405 Sport Studies Route Practicum II
★3 (either term, 0-3L-0). An individual project, or

on ongoing research in a laboratory or field setting under the supervision of an adviser. A contractual arrangement will be made between the student and adviser concerning the nature of the practicum. Prerequisite: PESS 305.

PESS 407 Philosophy of Physical Education and Sport
★3 (either term, 3-0-0). Emphasis on developing the ability to philosophically evaluate the conceptual issues encountered when physical education and sport are discussed. Prerequisite: PESS 204. For BPE students only.

PESS 408 Aesthetics of Dance, Sport and Physical Activity
★3 (either term, 3-0-0). An examination of aesthetics as a way to understand human movement in dance, sport, and physical activity.

PESS 409 Introduction to Research
★3 (second term, 3-0-0). An overview of research in physical education with emphasis on practical application of research techniques and designs. This course is intended for students who possess a minimal knowledge of statistics. Prerequisite: PESS 209 or an introductory statistics course.

PESS 420 Advanced Athletic Therapy Methods and Techniques
★3 (either term, 3-0-0). Advanced prevention, treatment, and sport-specific rehabilitative methods and techniques in athletic therapy. Prerequisite: PESS 100 and PESS 120, or consent of Department.

PESS 425 Advanced Practicum in Athletic Therapy Techniques
★3 (0-3L-0). An advanced practicum in athletic therapy designed to allow the student the opportunity to work independently in assessing and managing injuries as they occur in sport and physical education settings. The student will also be introduced to basic sport-specific rehabilitative techniques applicable to the physical education setting. Prerequisite: PESS 120, PTHER 310, PESS 325, and PESS 420. Note: A course worth three units of course weight offered over the full session.

PESS 430 Contemporary Issues in Physical Activity and Sport for Children
★3 (either term, 0-3s-0). An analysis of current issues in the establishment of physical activity programs for children. Prerequisite: PESS 330, 335, and at least two of PAC 425, 465, and DANCE 431, or consent of Department.

PESS 435 Advanced Practicum — Children's Physical Activities and Sport
★3 (either term, 0-1s-3). This practicum will focus on program development, class management and instructional strategies. Where possible this experience will be in one environment with one type of physical activity. Students will be expected to plan, teach/coach, and evaluate a limited program for children under the supervision of the agency (school, club, recreation department, or community league). Prerequisite: PESS 330, PESS 335, and at least two of PAC 305, PAC 320, PAC 375, PAC 425, PAC 465, or DANCE 431.

PESS 445 Practicum in Physical Education for the Physically Disabled
★3 (1-0-2). Supervised experience in physical activity programs for the physically disabled. Prerequisite: PESS 140 or consent of Department. For BPE students only.

PESS 465 Advanced Coaching Theory and Practicum
★3 (0-3L-0). Advanced coaching experience under the direction of or in association with an approved coach. The student coach will be expected to apply the theory content of PESS 260 and 360 in a coaching setting related to a particular sport. The course requires attendance at scheduled seminars inclusive of the content of NCCP Theory Level III. In addition to selected readings, a seasonal plan must be submitted. Prerequisite: PESS 260, 360 and 365. Note: A three-credit course offered over the full session. For BPE students only.

PESS 475 Advanced Practicum in Leadership and Instruction in Physical Activity
★3 (0-3L-0). A field placement involving the leading and/or instruction of youth or adults in physical activity settings. The course includes the completion of selected readings and assignments in addition to participation in seminars. Prerequisite: PESS 307 and PESS 375. For fourth year Leadership and Instruction Route students only. Note: A three-credit course offered over the full session.

PSYCO 484 The Learning, Memory and Control of Movement
★3 (first term, 3-0-3). A survey of the issues, experimentation and theories that surround the learning, memory, and control of human movement. Prerequisite: One of PSYCO 208, 267, 275, 288, or 353.

PESS 485 Outdoor/Leadership Practicum II
★3 (0-3L-0). Advanced outdoor leadership experience under the direction of an approved outdoor leader/agency. Prerequisite: PESS 385.

PESS 486 Wilderness Explorations Guiding Practicum
★6 (Intersession, 0-6L-0). A team of qualified senior Outdoor Route students research, plan, operate and lead a series of extended wilderness explorations that study selected Western Canadian environments and trails first hand. Emphasis is placed on an integrated, interdisciplinary approach to outdoor environmental education. Students participate extensively in group processes, environmental interpretation and trail leadership. For BPE Outdoor Route students only or by special consent of the Route Coordinator.

PESS 490 Applied Ethics in Physical Education and Sport
★3 (either term, 2-1s-0). A philosophical examination of ethical questions in the professional practice of physical education and sport.

PESS 492 Movement Education for Young Children
★3 (either term, 0-3s-0). A study of the fundamental aspects of movement involved in the activities of children from infancy to age eight. Included is an examination of play equipment and play spaces. Prerequisite: PESS 292 or consent of Department.

PESS 494 Physical Activity and Aging
★3 (either term, 3-0-1). An examination of the role of physical activity on the health and lifestyle of older adults.

PESS 495 Professional Practicum
★12 (either term, 14 weeks). Fourteen weeks of professional experience in a full-time (approximately 35 hours per week) route-related placement. Students must apply to their Route Coordinator. A limited number of placements are available. Restricted to fourth year BPE students only.

PESS 497 Selected Topics in Physical Education and Sport
★3 (either term, 3-0-0). A course offered on a topic of current interest in physical education and sport. Prerequisite: Consent of Department.

PESS 499 Directed Studies
★3 (either term, 0-3s-0). A course designed to meet the needs of individual students. Prerequisite: Consent of Department.

164.3 Courses in the BA in Recreation Administration Programs

164.3.1 Courses

Notes:

(1) Priority will be given to recreation students in all recreation courses that are required for the BA (Recreation Administration) degree program.

(2) All out-of-Department students are recommended to complete RLS 120 (Introduction to Recreation and Leisure Studies) or RLS 401 (Community Recreation) in order to take any other recreation course.

(3) Where an appropriate background can be demonstrated, RLS 120 (or REC 401) and other prerequisites may be waived, with the consent of Department.

RLS 120 Introduction to Recreation and Leisure Studies
★3 (either term, 3-0-0). An examination of the nature of leisure and recreation and its role in modern society; an overview of the structure of the Canadian recreation and leisure services system; an outline and discussion of professional preparation for recreation practice. Formerly REC 201/RLS 220.

RLS 121 Methods and Materials for Recreation Instructors
★3 (either term, 3-0-2). Introduction to organizing settings, activities, participants and leadership to produce recreation experiences. Emphasis upon practical skills in organizing and conducting programs. Formerly REC 202/RLS 220.

RLS 250 Introduction to Outdoor Recreation
★3 (either term, 3-1s-6). Use and understanding of the outdoor environment as a recreation setting. Emphasis on experimental learning. Note: RLS 250 and PESS 280 may not both be taken for credit. A user fee of $10 is charged for maintenance of equipment. A fee of up to $40 per student will be charged to contribute to field trip expenses. Prerequisite: RLS 120 (or RLS 401). Formerly REC 280.

RLS 320 Introduction to Philosophies of Leisure
★3 (either term, 3-0-0). Examination of the historical evolution of selected philosophies of leisure in Western civilization; their relationships to ideas about work, play, and quality of life; their implications for the recreation profession in Canada; and their impact upon future development of Canadian society. Formerly REC 302.

RLS 321 Introduction to the History of Leisure in Western Civilization
★3 (either term, 3-0-0). An overview of the significance of leisure in Western civilization from ancient greece to the present, to briefly examine its relationship to selected societal factors (such as economics, politics, religion and technology) and selected specific products (such as cinema, parks, sport, television and tourism). Formerly REC 303.

RLS 322 Sociological and Anthropological Perspectives on Leisure
★3 (either term, 3-0-0). Leisure as a socio-cultural phenomenon. Examination and analysis of sociological and anthropological literature relevant to leisure and leisure behavior. The place of leisure in, and its relationship to other social institutions such as work, the family, education and religion.

RLS 323 Leisure and Human Behavior
★3 (either term, 3-0-0). A social psychological examination of leisure experiences and leisure behaviors. Focus is on the individual in dynamic interactions with other individuals, groups or cultures within a leisure context.

RLS 324 The Political Economy of Leisure
★3 (either term, 3-0-0). An examination of the roles of politics and of the economy in structuring the nature and distribution of leisure opportunities in a society such as Canada. The course will analyse relationships between the democratic political process and the dynamics of wealth creation, and will consider the implications of these for leisure provision in a mixed economy. Formerly REC 305.

RLS 325 Principles and Processes in Planning for Leisure
★3 (either term, 3-0-0). Examination of the planning process with particular reference to the roles of recreation professionals, planners, and citizens in planning for leisure opportunities. Formerly REC 301.

RLS 330 Recreation and Community Development
★3 (either term, 3-0-0). Analysis of the social and political processes through which groups and individuals work to mobilize resources and establish relationships to fulfill community needs. Formerly REC 404.

RLS 331 Leisure Education
★3 (either term, 3-0-0). A total development process through which individuals develop an understanding of self, leisure, and the relationship of leisure to their own lifestyles and the fabric of society. Examination of determining the place and significance leisure has in one's life. Formerly REC 304.

RLS 332 Program Planning, Marketing, and Implementation
★3 (either term, 3-0-0). An examination of the general principles involved in designing, marketing, implementing and evaluating recreation and leisure programs. Emphasis will be placed upon the utilization of systematic program planning and marketing approaches to matching opportunities to client needs and consumer demands. Formerly REC 359.

RLS 401 Community Recreation
★3 (either term, 3-0-0). An orientation to the field of recreation. Examination of the principles of recreation and leisure, the dimensions of recreation practice, and career potential, in the recreation field. Note: Open to students from other departments. Prerequisite: Consent of Department. Note: RLS 120 and RLS 401 may not both be taken for credit. Formerly REC 401.

RLS 402 Fieldwork in Recreation
★3 (either term, 0-2/2s-12). A supervised placement for 3rd year BA (Recreation Administration) students. (Restricted to Recreation students.) Prerequisite: RLS 120; RLS 325; RLS 331. Formerly REC 402.

RLS 409 Professional Practicum
★12 (either term, 14 weeks). Fourteen weeks of professional experience in full-time placement, together with one week of workshops. Prerequisite: Student must be in Third Year of BA (Recreation Administration) Program and have completed all 1st and 2nd Year Core Recreation Courses. Normally students will be placed in Edmonton and the surrounding area. Restricted to Recreation students registered in the BA (Recreation Administration) program prior to the 1989-90 Winter Session. Formerly REC 409.

RLS 430 Administrative Practices in Recreation Organizations
★3 (either term, 3-0-0). Administrative principles, processes and practices in recreation organizations in the public, voluntary (not-for-profit) and commercial sectors. Formerly REC 405.

RLS 431 Volunteers and Voluntary Organizations in Recreation
★3 (either term, 3-0-0). An examination of I) The nature of volunteer involvement in the delivery of recreation and II) The structure and processes of the voluntary organizations that make up the recreation delivery system.

RLS 432 Recreation for Special Groups
★3 (either term, 3-0-1). Overview of the historic aspects of recreation for special groups; the nature of such groups and the rationale for service to them. The roles of recreation practioners in serving special groups. The current status of these groups. Formerly REC 408.

RLS 440 Professional Practicum
★6 (either term, 14 weeks). Fourteen weeks of professional experience in full-time placement. Must be taken concurrently with RLS 441.

RLS 441 Practicum Seminar
★3 (either term, 0-3s-0). A seminar, taken concurrently with RLS 440, which seeks to relate the professional work experience to the academic and professional preparation elements within the BA program.

RLS 442 Post-Practicum Seminar
★3 (either term, 0-3s-0). A seminar, taken during the term immediately following the professional practicum, which examines and evaluates the practicum experience in terms of its academic foundations and professional dimensions. Seeks to integrate and synthesize theory and practice in the field.

RLS 443 Perspectives on Leisure and Recreation Research
★3 (either term, 3-0-0). An overview of some of the major traditions in social scientific research, and of their implications for the study of recreation and leisure. The course will explore linkages between research and theory, and between research and social policy, and will introduce students to the critical evaluation, as well as the formulation of alternative research designs. Formerly REC 477 and REC 479.

RLS 444 Issues in Recreation Practice
★3 (either term, 0-3s-0). A seminar for graduating students in Recreation and Leisure Studies centering upon issues relevant to the beginning professional. The seminar seeks to provide a synthesis appropriate to the final-year student. Note: Must be taken in the final term of the student's program. Formerly REC 410.

RLS 450 Staging Major Community Events
★3 (either term, 3-0-0). The underlying philosophy for, and the planning and staging of, major community events. Particular attention is given to cultural and political processes. Prerequisite: RLS 120 (or RLS 401); REC 321. A minimum of one drama course is recommended. Formerly REC 443.

RLS 451 Planning Recreation Facilities
★3 (either term, 3-0-1). An examination of the planning and design process associated with the development of recreation facilities and open space. Attention is focussed on the provision of recreation opportunities of a predominantly intensive-use nature which tend to occur in an urban or near-urban setting. The course also reflects the relationship of recreation opportunities to other types of land use and planning at the urban and regional scale. Prerequisite: RLS 120 (or RLS 401); RLS 325. Formerly REC 459.

RLS 452 Parks Planning, Management and Maintenance
★3 (either term, 3-0-1). An examination of parks as recreation environments together with an analysis of the relationship between park planning, design and subsequent management and maintenance in terms of meeting the requirements of the park agency, the park user and the resource base. Attention is focussed on both the common themes in park management and the specific problems of parks operation and maintenance associated with particular types of parks contained within a comprehensive park system. Prerequisite: RLS 120 (or RLS 401); RLS 325; RLS 462 or RLS 451 recommended. Formerly REC 463.

RLS 460 Urban Outdoor Recreation
★3 (either term, 3-0-3). This course will focus on the availability and utilization of outdoor settings, found within an urban centre, by urban user groups for meaningful recreation and development experiences. A user fee of $10 will be charged for use of Faculty outdoor equipment. Field experiences will be emphasized. Prerequisite: RLS 120 (or RLS 401); PESS 280 or RLS 250 or consent of the instructor. Formerly REC 380.

RLS 461 Outdoor Recreation Programming and Counselling
★3 (either term, 3-0-3). Examination of the range and depth of recreation experiences inherent in selected outdoor activities and settings, and their implications for direct programming and counselling. Note: A user fee of $10 is charged for maintenance of equipment. A fee of up to $40 per student will be charged to contribute to field trip. Formerly REC 390.

RLS 462 Outdoor Recreation Resources
★3 (either term, 3-0-1). An examination of the principles of resource allocation and land use in a recreational context together with an analysis of the patterns and trends in outdoor recreation and their impact on the resource base. Particular attention is given to evaluating a variety of environmental settings in terms of their suitability for outdoor recreation and the types of recreational experiences associated with them. Prerequisite: RLS 120 (or RLS 401); RLS 325. Formerly REC 435.

RLS 463 Introduction to Tourism
★3 (either term, 3-0-0). This course provides an introduction to the tourism system, its nature, history and organization, with particular emphasis on the Canadian scene. The underlying dynamics of the cultural, social, economic and psychological aspects of tourism and travel will be discussed. The natural, man-made and cultural environment in which travel occurs, and the resulting impacts of travel are covered. Note: Two days of field trips will be scheduled during the term.

RLS 470 School-Community Recreation
★3 (either term, 3-0-0). Overview of community education as a social movement; integration of community recreation and education. Emphasis is upon four themes: theoretical perspectives; characteristics of the social movement; strategies for implementation; and current trends and issues. Prerequisite: RLS 120 (or RLS 401); RLS 320; RLS 321. Formerly REC 441.

RLS 471 Recreation Services for Special Groups
★3 (either term, 3-0-2). An in-depth review of selected groups labelled as "special" in today's society. Consideration of the implications for the delivery of recreation and related services. Examination of current issues and future trends related to associations, institutions and community services for special groups in Alberta and Canada. Prerequisite: RLS 432. Formerly REC 471.

RLS 472 Sport and the Community
★3 (either term, 3-0-0). Emphasis upon the values and policies underlying articulated community, provincial and national sports development programs, with a special concern for extending the playing life span of sports participants. Examination of the social, psychological and cultural roles of sports in society. Prerequisite: RLS 120 (or RLS 401); RLS 320; RLS 321. A minimum of two basic sociology courses is recommended. Formerly REC 365.

RLS 473 Principles and Processes in Therapeutic Recreation
★3 (either term, 3-0-0). The therapeutic recreation programming process is emphasized. Primary focus is on specialized programs in therapeutic recreation settings. The relationship between therapeutic recreation services and recreation and special populations is addressed. Therapeutic recreation service methods, such as systems approach programming, activity analysis, leisure assessment techniques and instruments, as well as treatment approaches and facilitation strategies employed in therapeutic recreation settings are presented. Professional issues such as client rights, standards of practice, and credentialing will also be addressed. Prerequisite: RLS 432 or consent of convener for out-of-Department students.

RLS 480 Public Relations for Recreation Agencies
★3 (either term, 3-0-0). Principles of public relations, including communications, modification of attitudes, identification of differing publics, and ethical issues, as they apply to the recreation field. Opportunity to write newspaper and magazine articles. Prerequisite: RLS 120 (or RLS 401); RLS 320, RLS 321. Formerly REC 363.

RLS 481 Cultural Arts Administration
★3 (either term, 3-0-0). Introduction to the administration of cultural arts programs from the perspective of the leisure/recreation delivery system, the artists, and the administrators of such programs. Prerequisite: RLS 430. Formerly REC 490.

RLS 490 Selected Topics
★3 (either term, 3-0-0). Topics of current interest in leisure and recreation. Prerequisite: Consent of course co-ordinator. Restricted to third and fourth year Recreation students. Formerly REC 489.

RLS 499 Directed Study
★3 (either term, 3-0-0). Individual or group study on a theme or issue in recreation, carried out under the direction of a member of the academic staff. Restricted to fourth year Recreation students. Formerly REC 499.

Interdisciplinary Studies

INT D 451 Recreation Geography
★3 (either term, 3-0-0). Geographic research on outdoor recreation; behavioral-spatial approaches to participation and conflict in resource use, social and ecological carrying capacity, recreation space management. Prerequisite: Consent of the instructor. (Offered jointly by the Departments of Geography and Recreation and Leisure Studies). [Geography].

INT D 466 Principles of Heritage Interpretation
★3 (either term, 3-0-0). Examination of heritage interpretation as an expression of cultural and environmental recreation programs. Prerequisite: Consent of instructor. (Offered jointly by the Departments of Forest Science and Recreation and Leisure Studies.) [Recreation and Leisure Studies]

INT D 467 Methods of Heritage Interpretation
★3 (either term, 3-3s-0). Application of principles of interpretation of natural and historic resources. Focus on management techniques and development of interpretative programs. Case studies and field trip. Prereq-uisite: Consent of instructor; INT D 466 recommended as complementary. (Offered jointly by the Departments of Forest Science and Recreation and Leisure Studies.) [Forest Science]

INT D 469 Plans for Heritage Interpretations
★3 (either term, 2-0-3). Survey of principles and practices at various levels of interpretative planning in historical/cultural and natural environments. (Offered jointly by the Department of Forest Science and Department of Recreation and Leisure Studies normally in the Intersession.) [Recreation and Leisure Studies].

INT D 470 Heritage Interpretation Field Trip
★3 (either term, 0-2s-6). Extended field trip to examine comparatively the philisophies, approaches and applied methodologies of a diverse range of institutions and agencies engaged in the practice of heritage interpretation. Prerequisite: Consent of instructor. (Offered jointly by the Departments of Forest Science and Recreation and Leisure Studies. [Forest Science]

Note: §164.4 reserved.

164.4 Graduate Courses

Graduate level courses offered by the Departments of Physical Education and Sport Studies and Recreation and Leisure Studies are listed in the Graduate Studies and Research section of the Calendar.

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Rehabilitation Medicine

Faculty of Rehabilitation Medicine

171 Introductory

171.1 Members of the Faculty

171.1.1 Office of the Dean

Dean
MC Piper, PhD

Associate Dean - Student Affairs
JW Vargo, PhD

Associate Professor
S Warren, PhD

Administrative Officer
A Yates

171.1.2 Occupational Therapy

Professor and Chair
ES Brintnell, MSc, BOT, Dip P and OT

Professors
BB Fifield, MSc, BOT, Dip OT(Eng), TDip
HM Madill, PhD, MEd, BOT, TDip, DipOT (NSW)
JW Vargo, PhD

Associate Professors
G Gilewich, MSc, BScOT
M Miyazaki, MSc, BOT

Assistant Professors
Y Bhambhani, PhD
J Magill-Evans, PhD
E Taylor, MEd

Fieldwork Coordinator
R Urbanowski, MSc, BOT, BHSA

Joint Appointments
M Befus, MSc
C Nelson, MSc

Adjunct Professor
RM Feldman, MD, FRCP(C)

Adjunct Associate Professor
S Dennis, PhD

Adjunct Assistant Professor
A Walji, MD, PhD

Adjunct Lecturers
A Carmichael-Smith, BScOT
L Dahlberg, BOT
N DeCock, BScOT
C Dick, MD
P Edney, MSc
G Flynn, MD
B Gummer
G Hendson, MD
F Kortbeek, MD
L Lazaruk, BScOT
A McKinnon, MEd, BOT, DipOT
N Scullion, BScOT
M Williams, MSc
RG Willis, BEd
G Wood, MD
K Yelle-Watt, BScOT

Clinical Lecturers
V Anderson, Broxton School, Spruce Grove
K Babcock, Sherbrooke Community Centre, Saskatoon
A Baggaley, University of Alberta Hospitals
i Barlow, Glenrose Rehabilitation Hospital, Edmonton
M Benson, Edmonton General/Grey Nuns, Edmonton
P Berquist, Calgary General Hospital, Calgary
P Bradley, Bethany Care Centre, Calgary
L Brownstone, Wascana Rehabilitation Centre, Regina
C Burden, Charles Camsell General Hospital, Edmonton
M Byer, Royal Alexandra Hospital, Edmonton
C Cook, Edmonton General/Grey Nuns, Edmonton
W Cutten, Calgary General Hospital, Calgary
F Der, Bethany Care Centre, Calgary
P Downing, Alberta Hospital - Edmonton
F Drisner, Edmonton General/Grey Nuns, Edmonton
L Erickson, Glenrose Rehabilitation Hospital, Edmonton
B Feist, University of Alberta Hospitals, Edmonton
E Fergusson, Sarcee Auxiliary Hospital, Calgary
R Fine, Lethbridge Regional Hospital, Lethbridge
B Fischbrook-Benoit, University of Alberta Hospitals, Edmonton
L Fisher, Edmonton Board of Health, Edmonton
J Fowler, University of Alberta Hospitals, Edmonton
J Gibb, Calgary General Hospital, Calgary
K Gillis, Edmonton General/Grey Nuns, Edmonton
O Gogarty, Edmonton General/Grey Nuns, Edmonton
H Gregoire, Foothills Hospital, Calgary
D Guch, Alberta Mental Health Services, Edmonton
J Hagel, Foothills Hospital, Calgary
C Hale, Bethany Care Centre, Calgary
P Hoover, Alberta Mental Health Services, Edmonton
V Hrynko, Glenrose Rehabilitation Hospital, Edmonton
S Hunter, Sarcee Auxiliary Hospital, Calgary
S Illmayer, University of Alberta Hospitals
K Jan-Simonis, Alberta Mental Health Services, Edmonton
C Jantz, University of Alberta Hospitals, Edmonton
C Johnston, Sherbrooke Community Centre, Saskatoon
D Jones, Red Deer Regional Hospital Centre, Red Deer
D Kennett, Wascana Rehabilitation Centre, Regina
C King-Hunter, Thorhild Westlock Auxiliary Hospital, Westlock
J Kinghorn, Alberta Children's Hospital, Calgary
P Kocon, Alberta School for the Deaf, Edmonton
L Kurytnik, Bethany Care Centre, Calgary
S Kuyltjes, Edmonton General/Grey Nuns, Edmonton
C Kwan, Alberta Hospital - Edmonton
C LaForge, Alberta Hospital - Ponoka, Ferintosh
C Lea, Edmonton General/Grey Nuns, Edmonton
A MacDonald, Alberta School for the Deaf, Edmonton
S MacLean, Edmonton General/Grey Nuns, Edmonton
A Mackenzie, Medicine Hat Regional Hospital, Medicine Hat
M Manji, Edmonton General/Grey Nuns, Edmonton
S McBride, M & M Careers Ltd, Edmonton
N McNaughton, Peter Lougheed Centre, Calgary
R Moellenbeck, M & M Careers Ltd, Edmonton
B Moore, Alberta Children's Hospital, Calgary
K Mulka, Edmonton Board of Health, Edmonton
K Murray, Edmonton Board of Health, Edmonton
J Nakonechny, University of Alberta Hospitals, Edmonton
B Nedelec, University of Alberta Hospitals, Edmonton
S Paran, Royal Alexandra Hospital, Edmonton
L Pedden, Dickinsfield Extended Care Centre, Edmonton
B Phillips, University of Alberta Hospitals, Edmonton
P Phillips, Foothills Hospital, Calgary
P Pineda-Bamboe, Alberta Children's Hospital, Calgary
C Pon, Glenrose Rehabilitation Hospital, Edmonton
P Rae, Dickinsfield Extended Care Centre, Edmonton
J Rebus, Foothills Hospital, Calgary
G Rowland, Alberta Hospital - Ponoka
K Ryan, Calgary General Hospital, Calgary
A Shand, University of Alberta Hospitals, Edmonton
E Sliwa, Alberta Hospital - Edmonton, Edmonton
D Smith, Colonel Belcher Hospital, Calgary
J Smyth, Calgary General Hospital, Calgary
L Sorenson, Glenrose Rehabilitation Hospital, Edmonton
L Swinton, Calgary General Hospital, Calgary
S Szilvasy, Royal Alexandra Hospital, Edmonton
J Taniguchi, University of Alberta Hospitals, Edmonton
D Thompson, Calgary General Hospital, Calgary
W Tilley, University of Alberta Hospitals, Edmonton
G Tse, Bethany Care Centre, Calgary
M Tsoi, WCB Rehabilitation Centre, Edmonton
N Verdin, Red Deer Regional Hospital Centre, Red Deer
P Verhoeff, Edmonton Board of Health, Edmonton
J Virtusio, Colonel Belcher Hospital, Calgary
J Watz, Medicine Hat Regional Hospital, Medicine Hat
D Wetzel, Edmonton Board of Health, Edmonton
D Winder, Alberta Children's Hospital, Calgary
V Wirth, Cross Cancer Institute, Edmonton
P Wodynski, Alberta Children's Hospital, Calgary
A Wood, Alberta Mental Health Services, Edmonton
S Wyldman, Royal Alexandra Hospital, Edmonton

Clinical Assistant Professors
J Appelt, Misericordia Hospital, Edmonton
M Austman, Glenrose Rehabilitation Hospital, Edmonton
M Befus, Calgary General Hospital, Calgary
M Devin, Glenrose Rehabilitation Hospital, Edmonton
S Duggal, University of Alberta Hospitals, Edmonton
P Edney, Royal Alexandra Hospital, Edmonton
S Fellowes, Alberta Children's Hospital, Calgary
S Gaw, Calgary General Hospital, Calgary
L Lazaruk, Edmonton Board of Health, Edmonton
L Lees, Queen Elizabeth II Hospital, Grande Prairie
F Marshall, Edmonton General/Grey Nuns, Edmonton
J Smith, Edmonton General/Grey Nuns, Edmonton
D Winter, University of Alberta Hospitals, Edmonton

Clinical Associate Professors
F Auyeung, Alberta Hospital - Ponoka
U Bishnoi, Alberta Children's Hospital, Calgary
L Bradley, Calgary General Hospital, Calgary
L Briscoe, Edmonton General/Grey Nuns, Edmonton
S Bruton-Toombs, Queen Elizabeth II Hospital, Grande Prairie
A Carmichael-Smith, Dickinsfield Extended Care Centre, Edmonton
D Cartwright, Edmonton General/Grey Nuns, Edmonton
H Chilton, Alberta Children's Hospital, Calgary
N DeCock, Edmonton General Hospital, Edmonton
P Farrar, Foothills Hospital, Calgary
A Finstad, Fort McMurray Regional Hospital, Ft. McMurray
B Goldberg, University of Alberta Hospitals, Edmonton
R Green, Glenrose Rehabilitation Hospital, Edmonton
C Gubuan, Colonel Belcher Hospital, Calgary
T Hardial, Rockyview General Hospital, Calgary
M Herring, Bethany Care Centre, Calgary
V Hilario, Red Deer Regional Hospital Centre, Red Deer
J Hinrichs, Fanning Extended Care Centre, Calgary
M Jessop, Dickinsfield Extended Care Centre, Edmonton
L Kennedy, Glenrose Rehabilitation Hospital, Edmonton
A Magnan, University of Alberta Hospitals, Edmonton
D Mah-Jones, Glenrose Rehabilitation Hospital, Edmonton
C Montgomery, Royal Alexandra Hospital, Edmonton
G Murphy, Lynnwood Extended Care Centre, Edmonton
S Pichler, Foothills Hospital, Calgary
H Powelson, Charles Camsell General Hospital, Edmonton
D Radloff-Gabriel, Sherbrooke Community Centre, Saskatoon
H Rust, Lynwood Extended Care Centre, Edmonton
M Sams, Lethbridge Regional Hospital, Lethbridge
M Schmitke, Alberta Hospital, Edmonton
N Scullion, Charles Camsell General Hospital, Edmonton
M Shim, Alberta Hospital, Edmonton
N Thiru-Chelvan, Misericordia Hospital, Edmonton
G Turner, Norwood Extended Care, Edmonton
D Worth, Grandview Extended Care, Edmonton

171.1.3 Physical Therapy

Professor and Chair
DJ Magee, BA, BPT, MSc, PhD

Professor Emeritus
AG Faulds, MCSP, DipTP
M Parker, MCSP, HT DipTP

Professors
S Kumar, PhD
JE Semple, MEd, BPT, Grad Dip Phys, HT, DipTP

Associate Professors
DM Ford, MSc, BPT, DipTP, PhD
J Loomis, BPT, MEd
GA Rennie, BPT, MSc
J Wessel, BScPT, MHSc, PhD

Assistant Professors
HM Clarkson, MA, BPT
T Martin, PhD
J Yang, PhD

Joint Appointments/Calgary
B McLaughlin, BScPT
D Simpson, PhD

Adjunct Professors
T Gordon, PhD
RL Jones, PhD
T Montague, MD
A Prochazka, Dr rer nat
HA Quinney, Phd
DC Reid, MD, FRCS(c), MCh, Dip TP, BPT
RB Stein, DPhil

Adjunct Associate Professors
S Barton, PhD
S Dunn, PhD

Adjunct Assistant Professors
J Bobet, PhD
B Fisher, PhD
C Pauw, MD
R Sears, MSc
M Simmonds, MSc

Adjunct Lecturers
B Bissell, BScPT
L Chamberlain, BPT
C Kilduff, BSc(PT)
G Sydenham, DipPT
A Thom, MCSP
M Young, BScPT

Clinical Lecturers
R Adams, College Plaza Physiotherapy, Edmonton
H Alexander, Red Deer Regional Hospital Centre, Red Deer
C Badach, Thorhild Westlock Auxiliary Hospital, Westlock
S Baldwin, Rockyview General Hospital, Calgary
E Ball, St Mary's Hospital, Camrose
S Bennie, Edmonton General/Grey Nuns, Edmonton
J Berk, University of Alberta Hospitals, Edmonton
J Black, Garneau Physiotherapy, Edmonton
K Bowie, Fort McMurray Regional Hospital, Fort McMurray
J Brohman, University of Alberta Hospitals, Edmonton
B Brown, Calgary General Hospital, Calgary
C Cawker, Misericordia Hospital, Edmonton
H Chaput, Colonel Belcher Hospital, Calgary
M Cherwenuk, Foothills Hospital, Calgary
D Craig, Calgary General Hospital, Calgary
G Crossman, Leduc General Hospital, Leduc
A Dahl, Colonel Belcher Hospital, Calgary
C Davis, Lindsay Park Sports Physiotherapy, Calgary
S Dechant, Edmonton General/Grey Nuns, Edmonton
M Dickey, Strathcona Physiotherapy, Edmonton
K Elliott, Edmonton General/Grey Nuns, Edmonton
T Ewashko, Royal Alexandra Hospital, Edmonton
S FitzGerald, Lindsay Park Sports Physiotherapy, Calgary
N Flanders, Charles Camsell General Hospital, Edmonton
M Fok, Charles Camsell General Hospital, Edmonton
V Fournier, Fanning Extended Care Centre, Calgary
A Gallagher, Alberta Children's Hospital, Calgary
C Gattinger, Lindsay Park Sports Physiotherapy, Calgary
C Gill, Alberta Children's Hospital, Calgary
A Glass, Calgary General Hospital, Calgary
B Goehring, Calgary General Hospital, Calgary
J Haggarty, Foothills Hospital, Calgary
M Hall, Red Deer Regional Hospital Centre, Red Deer
F Harckham, Glenrose Rehabilitation Hospital, Edmonton
L Haywood, Calgary General Hospital, Calgary
C Hazzard, Calgary General Hospital, Calgary
J Heaps, University of Alberta Hospitals, Edmonton
B Henry, University of Alberta Hospitals, Edmonton
R Highland, University of Alberta Hospitals, Edmonton
P HoLem, Glenmore Park Auxiliary Hospital, Calgary
S Holtski, Red Deer Regional Hospital Centre, Red Deer
P Hunt-Sidnell, Peter Lougheed Centre, Calgary
G Irwin, Millwoods Physiotherapy Ltd, Edmonton
H Jackman, Holy Cross Hospital, Calgary
L Janz, Misericordia Hospital, Edmonton
D Klassen, Royal Alexandra Hospital, Edmonton
P Korpi, Calgary General Hospital, Calgary
L Korvin, Foothills Hospital, Calgary
S Kowch-Gordon, Grandview Extended Care Centre, Edmonton
D Llewellyn, Grandview Extended Care Centre, Edmonton
M Low, Holy Cross Hospital, Calgary
R MacDonald, Lindsay Park Sports Physiotherapy, Calgary
N MacLean, Foothills Hospital, Calgary
S Malo, Lethbridge Regional Hospital, Lethbridge
M Martin, Queen Elizabeth II Hospital, Grande Prairie
P Mayer, Lindsay Park Sports Physiotherapy, Calgary
K McBoyle, Foothills Hospital, Calgary
M McCoy, Misericordia Hospital, Edmonton
H McDonald, Peter Lougheed Centre, Calgary
K McIntosh, Holy Cross Hospital, Calgary
M McNeely, Cross Cancer Institute, Edmonton
C Menkema, University of Alberta Hospitals, Edmonton
A Mikkelsen, Holy Cross Hospital, Calgary
C Miklusek, Charles Camsell General Hospital, Edmonton
S Murray, Holy Cross Hospital, Calgary
A Myers, Holy Cross Hospital, Calgary
P Noel-Bentley, Calgary General Hospital, Calgary
T Numrich, Foothills Hospital, Calgary
J Nunweiler, Glenrose Rehabilitation Hospital, Edmonton
C Nyhoff, Lethbridge Regional Hospital, Lethbridge
D Panasiuk, Royal Alexandra Hospital, Edmonton
L Petersen, University of Alberta Hospitals, Edmonton
L Petrash, Lindsay Park Sports Physiotherapy, Calgary
T Philp, Sarcee Auxiliary Hospital, Calgary
W Pirrit, Calgary General Hospital, Calgary
P Pratt, Holy Cross Hospital, Cochrane
A Rea, Alberta Children's Hospital, Calgary
I Reid, Charles Camsell General Hospital, Fort Saskatchewan
J Richardson, Grandview Extended Care Centre, Edmonton
H Riewe, Glenrose Rehabilitation Hospital, Edmonton
L Robert, Edmonton General/Grey Nuns, Edmonton
L Rogers, St Michael's General Hospital, Lethbridge
A Rolston, Edmonton General/Grey Nuns, Edmonton
D Ross, Glenmore Park Auxiliary Hospital, Calgary
J Schroder, Holy Cross Hospital, Calgary
C Scott, Foothills Hospital, Calgary
Y Shrimpton, Charles Camsell General Hospital, Edmonton
C Smith, Foothills Hospital, Calgary
S Strangeland, Glenrose Rehabilitation Hospital, Edmonton
E Steinbring, Strathcona Physiotherapy, Edmonton
E Sutton, Lethbridge Regional Hospital, Lethbridge
H Torres Trejo, Charles Camsell General Hospital, Edmonton
L Townsend, Peter Lougheed Centre, Calgary
M Turgoose, Glenmore Park Auxiliary Hospital, Calgary
K Van Heyst, Cross Cancer Institute, Sherwood Park
J Van Zalingen, Edmonton General/Grey Nuns, Edmonton
K Wallace, Foothills Hospital, Calgary
M Walsh, Lindsay Park Sports Physiotherapy, Calgary
B Watkins, Glenrose Rehabilitation Hospital, Edmonton
D Weicker, Edmonton General/Grey Nuns, Edmonton
J Wheeler, Royal Alexandra Hospital, Edmonton
P Williams, Peter Lougheed Centre, Calgary
B Woon Choy, University of Alberta Hospitals, Edmonton
M Yates, Lindsay Park Sports Physiotherapy, Calgary
M Young, Glen Sather U of A Sports Medicine Clinic, Edmonton
D Zayac, Glenrose Rehabilitation Hospital, Edmonton

Clinical Assistant Professors
C Brown, Royal Alexandra Hospital, Edmonton
A Busch, University of Alberta Hospitals, Edmonton
B Carey, Alberta Children's Hospital, Calgary
J Compton Herrmann, Dickinsfield Extended Care Centre, Edmonton
J Crosley, Rockyview General Hospital, Calgary
B Fenyves, University of Alberta Hospitals, Edmonton
J Ferguson, Peter Lougheed Centre, Calgary
J Flett, Glenrose Rehabilitation Hospital, Edmonton
P Gilchrist, University of Alberta Hospitals, Edmonton
M Hoda, Charles Camsell Hospital, Edmonton
J Hunt, Edmonton General/Grey Nuns, Edmonton
K Hutchings, Rockyview General Hospital, Calgary
L Keeling, Foothills Hospital, Calgary
R Kuip, Edmonton General/Grey Nuns, Edmonton
J Kwakernaak, Calgary General Hospital, Calgary
D MacDonald, Royal Alexandra Hospital, Edmonton
K Maitland, Royal Alexandra Hospital, Edmonton
S Malone, Glenrose Rehabilitation Hospital, Edmonton
L Maricle, Charles Camsell Hospital, Edmonton
L McIntosh, Glenrose Rehabilitation Hospital, Edmonton
J Morissette, Queen Elizabeth II Hospital, Grande Prairie
J Nickel, Foothills Hospital, Calgary
M Parfitt, Strathcona Physioytherapy, Edmonton
C Robertsen, Alberta Hospital - Edmonton
H robertson, Red Deer Regional Hospital Centre, Red Deer
M Sawka, Edmonton General/Grey Nuns, Edmonton
C Schwaltenberg, Misericordia Hospital, Edmonton
S Silver, Callingwood Physiotherapy, Edmonton
L Stinn, Edmonton General/Grey Nuns, Edmonton
G Sydenham, Academy Place Physical Therapy, Edmonton
R Sydenham, Academy Place Physical Therapy, Edmonton
M Thorlakson, Edmonton General/Grey Nuns, Sherwood Park
S Way-Nee, University of Alberta Hospitals, Edmonton
P Wilson, Foothills Hospital, Calgary
G Wong, Royal Alexandra Hospital, Edmonton
L Zorrilla, University of Alberta Hospitals, St Albert

Clinical Associate Professors
E Aldwinckle, Sarcee Auxiliary Hospital, Calgary
W Antoniuk, Leduc General Hospital, Leduc
C Bartzen, WCB Rehabilitation Centre, Edmonton
M Belanger, Norwood Extended Care Centre, Edmonton
M Briggs, University of Alberta Hospitals, Edmonton
D Bristow, University of Alberta Hospitals, Edmonton
W Brook, Glenrose Rehabilitation Hospital, Edmonton
J Darwish, Charles Camsell General Hospital, Edmonton
N DeCock, Edmonton General/Grey Nuns, Edmonton
D Dewes, Glenrose Rehabilitation Hospital, Edmonton
L Figgures, University of Alberta Hospitals, Sherwood Park
R Goodchild, Alberta Children's Hospital, Calgary
K Greaves, University of Alberta Hospitals, Edmonton
V Harris, Glenrose Rehabilitation Hospital, Edmonton
A Hughton, Royal Alexandra Hospital, Edmonton
J Jacobsen, Glenmore Park Auxiliary Hospital, Calgary
T Kaasa, Edmonton General/Grey Nuns, Edmonton
C Kilduff, University of Alberta Hospitals, Edmonton
J L'Abbe, University of Alberta Hospitals, Edmonton
A MacLeod, Foothills Hospital, Calgary
B Malone, Grandview Extended Care Centre, Edmonton
L McGregor, Rockyview General Hospital, Calgary
E McInnes, Glenrose Rehabilitation Hospital, Edmonton
A McMillan, Glenrose Rehabilitation Hospital, Edmonton
D Miller, Lethbridge Regional Hospital, Lethbridge
N Milligan, Royal Alexandra Hospital, Edmonton
M Mooney, Fort Saskatchewan General Hospital, Fort Saskatchewan
B Norton, Charles Camsell General Hospital, Edmonton
B O'Brien, Edmonton General/Grey Nuns, Edmonton
S Parker, Dickensfield Extended Care Centre, Edmonton
E Pranke, St Michael's General Hospital, Lethbridge
S Purdon, University of Alberta Hospitals, Edmonton
K Raiser-Morse, Glenrose Rehabilitation Hospital, Edmonton
P Rock, Edmonton General/Grey Nuns, Edmonton
H Poliakiwski, Stanton Yellowknife Hospital, Yellowknife
H Rust, Lynwood Extended Care Hospital, Edmonton
J Semple, Grandview Extended Care Centre, Edmonton
J Swinamer, Royal Alexandra Hospital, Edmonton
N Thiru-Chelvan, Misericordia Hospital, Edmonton
A Thom, Glenrose Rehabilitation Hospital, Edmonton
G Toller-Lobe, Glenrose Rehabilitation Hospital, Edmonton
H Toporowski, Thorhild Westlock Auxiliary Hospital, Westlock
G Varghese, Alberta Hospital, Ponoka
R Verdote-Robertson, Alberta Hospital, Edmonton
C Whitford, Glenrose Rahabilitation Hospital, Edmonton
D Wulf, Glenrose Rehabilitation Hospital, Edmonton

171.1.4 Speech Pathology and Audiology

Chair and Professor
G Holdgrafer, PhD

Professors
E Boberg, PhD
S Haske, PhD
FB Wilson, PhD, FASHA

Associate Professors
P Hagler, PhD
AH Rochet, PhD

Assistant Professors
M Hodge, PhD
P Schneider, PhD

Adjunct Lecturer
L McFarlane, BSc

Adjunct Assistant Professors
C Gotaas, MA
D Hoek, MSc
S Hudson, MSc
C Hund-Reid, MA
C McCarthy, MEd
P Nesbitt, MA
C Reddick-Bakker, MA
E Webster, MA

Adjunct Professor
L Yeudall, PhD

Joint Appointment
M Hodge, PhD

Clinical Lecturers
P Aikman, Glenrose Rehabilitation Hospital, Edmonton
L Cole, Glenrose Rehabilitation Hospital, Edmonton
K Duff, Alberta Children's Hospital, Calgary
D Freedman, Alberta Children's Hopsital, Calgary
C Geisler, Glenrose Rehabilitation Hospital, Edmonton
A Guthrie, Edmonton Board of Health, Edmonton
L Harrison, Broxton School, Spruce Grove
S Hazewinkel, Edmonton Board of Health, Edmonton
J Law, Broxton School, Edmonton
A Lopushinsky, Glenrose Rehabilitation Hospital, Edmonton
C McCallum, Glenrose Rehabilitation Hospital, Edmonton
T Nelles, Alberta Children's Hospital, Calgary
B Olaskar, Glenrose Rehabilitation Hospital, Edmonton
J Palamarchuk, Leduc-Strathcona Health Unit, Sherwood Park
T Pilger, Leduc-Strathcona Health Unit, Sherwood Pa
T Stewart Leduc-Strathcona Health Unit, Devon
J Wagstaff, Leduc-Strathcona Health Unit, Sherwood Park
L Wylie, Edmonton General/Grey Nuns, Edmonton

Clinical Assistant Professors
C Alton, Glenrose Rehabilitation Hospital, Edmonton
C Humphrey, Alberta Children's Hospital, Calgary
L Johnsen, Glenrose Rehabilitation Hospital, Edmonton
D Kantypowicz, Edmonton Public Schools, Edmonton
M MacEachern, Institute for Stuttering Treatment and Research, Edmonton

Clinical Associate Professors
J Friesanhan, Leduc-Strathcona Health Unit, Sherwood Park
E Heaton, Glenrose Rehabilitation Hospital, Edmonto
D Kully-Martens, Institute for Stuttering Treatment and Research, Edmonton
B Norman, Foothills Hospital, Calgary
C Oddy, Glenrose Rehabilitation Hospital, Edmonton
C Reddick Bakker, Edmonton General/Grey Nuns, Edmonton
W Russell, St Albert Protestant Board of Education, S Alberta
E Webster, Glenrose Rehabilitation Hospital, Edmont
N Wood, Alberta Children's Hospital, Calgary

171.1.5 Additional Members of the Faculty Council

President and Vice-Chancellor
P Davenport, PhD

Professors
D Reid, MD (Medicine)
JK Lauber, PhD (Zoology)

Associate Professors
A Friedman, PhD (Psychology)
M Bibby, PhD (Education)
KD McFadden, PhD (Anatomy)

Registrar of the University
BJ Silzer, MEd

Representatives
M Briggs, College of Physical Therapists of Alberta
R Feldman, Rehabilitation Committee, Alberta Medical Association
C McCarthy, Speech and Hearing Association of Alberta
E Taylor, Alberta Association of Registered Occupational Therapists

171.1.6 Clinical Affiliated Teaching Facilities

Academy Place Physiotherapy Ltd.
Alberta Children's Hospital
Alberta Hospital Edmonton
Alberta Hospital Ponoka
Alberta School for the Deaf
Alberta Community Health Home Care Unit
Apex Physiotherapy
Athabasca General & Auxiliary Hospital
Barrhead General Hospital
Bethany Care Centre
Brooks Health Centre
Calgary General Hospital
Callingwood Physiotherapy Ltd.
Capilano Physiotherapy Ltd.
Charles Camsell Hospital
College Plaza Physiotherapy
Colonel Belcher Hospital
Coronation Physiotherapy Ltd.
W.W. Cross Cancer Institute
Dickinsfield Extended Care Centre
Drumheller Regional Health Complex
Dr Vernon Fanning Extended Care Centre
Elk Point Municipal Hospital
Fort McMurray Regional Hopsital
Glenmore Park Auxiliary
Grey Nuns Hospital
High River General Hospital
Hinton General Hospital
Foothills Hospital
Fort Saskatchewan General Hospital and School Hospital
Glenrose Rehabilitation Hospital
Good Samaritan Hospital
Goodwill Rehabilitation Services
Grandview Extended Care Centre
Heritage Physiotherapy Ltd.
Holy Cross Hospital
Institute for Stuttering Treatment and Research
John Neil, Cold Lake
Kingsway Physiotherapy Ltd.
Lake Beaumaris Physiotherapy
Lethbridge Regional Hospital
Local Health Authorities (Edmonton Health Units)
Lynnwood Extended Care Centre
Meadowlark Physiotherapy Ltd.
Medicine Hat General Hospital
Millwoods Physiotherapy Ltd.
Misericordia Hospital
Nanton, Alberta
North Town Physiotherapy Ltd.
Normed Physical Therapy
Norwood Extended Care Centre
Peace River Municipal Hospital
Queen Elizabeth Ii Hospital
Red Deer Regional General Hospital
Rockyview Hospital
Royal Alexandra Hospital
Sarcee Auxiliary and Nursing Home
Stanton Yellowknife Hospital
St John's Health Care Complex
St Mary's Hospital
St Michael's General Hospital
Strathcona Physiotherapy Ltd.
Sturgeon General Hospital
Taber and District Health Care Complex
University of Alberta Hospitals
University Hospital Saskatoon
Wascana Hospital
Wainwright and District Health Care Complex
Workers' Compensation Board Rehabilitation Centre

171.2 General Information

The importance of Medical Rehabilitation was recognized by the University establishing a program in Physical Therapy in 1954, and a program in Occupational Therapy in 1960. The Division of Speech Pathology and Audiology first offered courses in 1969.

171.2.1 Undergraduate Programs

Four-year degree programs are offered in the Departments of Physical Therapy and Occupational Therapy*. Applicants to the Department of Occupational Therapy are required to complete a pre-professional year prior to enrolling in this program. All students are required to undertake clinical practice during their course of study in approved institutions under the supervision of qualified professional staff. An honorarium may be paid by the institutes concerned while the student is serving the internship during the summer months.

*The Board of Governors and the Alberta Minister of Advanced Education have approved a proposal by the Department of Speech Pathology and Audiology to eliminate the undergraduate program. The last intake of undergraduate students was September, 1990.

171.2.2 Programs for Master's Degrees

Master of Science in Physical Therapy

The Department of Physical Therapy offers an advanced program in research techniques, orthopaedics, sports therapy, therapeutic exercise and other Physical Therapy specialty areas. The program normally requires two years but the time may vary according to the academic background of each student. Applicants must normally have had at least one year of clinical experience prior to being accepted into the program. It is possible to enter the program in January, May, or September.

For further information write to: Chair, Graduate Committee, Department of Physical Therapy, Faculty of Rehabilitation Medicine, University of Alberta, Edmonton, Alberta, T6G 2G4.

Master of Science in Occupational Therapy

The Department of Occupational Therapy offers a program leading to the degree of MSc, in several fields of study including life span development, psychosocial dysfunction, and work evaluation (physical dysfunction will be available in the near future). Normally done in two years of full-time study, the graduate program involves eight half-term courses and a research thesis. The degree will prepare therapists for specialization, senior clinical positions, and careers involving research.

Further information is available from the Chair, Graduate Committee, Department of Occupational Therapy, Faculty of Rehabilitation Medicine, University of Alberta, Edmonton, Alberta, T6G 2G4.

Master of Science in Speech-Language Pathology

The Department of Speech Pathology and Audiology offers graduate work leading to the Master of Science in Speech-Language Pathology. The program is designed to provide speech-language clinicians with the research skills needed to study the etiology, prevention, diagnosis, and remediation of speech, language, and hearing disorders. Students will undertake research to enhance their abilities to take leadership roles in academic, clinical and laboratory settings.

The minimum entrance requirements include an undergraduate degree in Speech Pathology with a cumulative grade point average of at least 6.5 in the last two years of undergraduate work from the University of Alberta, or equivalent qualifications from another academic institution. Applicants must also submit a statement of their research interests, three letters of recommendation, and the results of the Graduate Record Examinations (verbal, quantitative and analytical subtests).

Master of Speech-Language Pathology

The Board of Governors and Alberta Minister of Advanced Education have approved a proposal by the Department of Speech Pathology and Audiology to implement a master of Speech-Language Pathology program to be implemented in September 1992. The program is designed to provide students with the academic and clinical education required for certification by provincial and national professional associations.

The minimum entrance requirements include a four-year baccalaureate degree with a grade point average of at least 6.5 in the courses taken during the last two years of university work. Applicants must normally have completed preparatory courses in areas fundamental to the program. Information on required preparatory courses can be obtained from the Department. Applicants must submit three letters of recommendation, results of the Graduate Record Examination (GRE), and a statement of clinical research interests.

Further information may be obtained from the: Chair, Graduate Committee, Department of Speech Pathology and Audiology, Faculty of Rehabilitation Medicine, University of Alberta, Edmonton, Alberta, T6G 0T2.

171.3 Licensing by Professional Associations

171.3.1 Occupational Therapy

Graduates from the BSc in Occupational Therapy program are eligible to apply for membership in the Canadian Association of Occupational Therapists, (CAOT) Third Floor, 110 Eglinton Ave. West, Toronto, Ontario, M4R 1A3, and the Alberta Association of Registered Occupational Therapists (AAROT), #300 Centre 104, 5241 Calgary Trail Southbound, NW, Edmonton, Alberta, T6H 5G8.

To establish eligibility, CAOT requires successful completion of a certification examination.

171.3.2 Physical Therapy

Graduates from the BSc in Physical Therapy program are eligible to apply for membership in the Canadian Physiotherapy Association, 890 Yonge St, 9th Floor, Toronto, Ontario M4W 3P4 and the Association of Chartered Physiotherapists of Alberta, 10-10444-82 Avenue, Edmonton, Alberta.

171.3.3 Speech Pathology and Audiology

All remaining graduates from the BSc program in Speech Pathology and Audiology are eligible to apply for membership in the Speech and Hearing Association of Alberta, c/o Department of Communication Disorders, Glenrose Rehabilitation Hospital, Edmonton, Alberta and the Canadian Association of Speech Language Pathologists and Audiologists (CASLPA), Suite 1215, 25 Main Street West, Hamilton, Ontario, L8P 1H1. They will be eligible to sit the certification examination by CASLPA. The deadline for the final graduating class will be 1993.

171.3.4 Provincial Licensing

Graduates from all programs intending to practise in Canada will have to comply with provincial licensing requirements regardless of their professional qualifications.

171.3.5 Employment in Other Countries

Information regarding practice in other countries may be obtained from the appropriate professional organization, which will also advise on the degree of reciprocity of registration to be expected.

171.4 Budget

In the Department of Occupational Therapy a Sundries Fee of $30 will be charged in the second and third years of the program.

In the Department of Physical Therapy a fee of $15 will be charged for materials and supplies to all full-time undergraduate students registered in the program. The fee for graduate students will be $25 annually.

In the Department of Speech Pathology and Audiology, fees in the amount of $10 will be charged for materials and supplies in each year of the program.

172 Faculty Regulations

172.1 Admission

172.1.1 General Information

Owing to severe limitations of space and to the present shortage of clinical placement centres, admission into all programs is on a quota system: 64 students in Occupational Therapy and 66 in Physical Therapy.

Although selection procedures will vary with the program offered, in general the emphasis will be upon

academic standing with preference being given to those applicants with the highest standing.

As admission requirements vary with the program selected, it is imperative that those wishing to apply consult the matriculation requirements as set out in §13.4.15 of this Calendar.

An Interprovincial Training Agreement between the Province of Alberta and the Province of Saskatchewan exists for the Department of Occupational Therapy. Pending the official acceptance of agreement between the governments of Saskatchewan and Alberta, ten students from Saskatchewan will be admitted to the program for five consecutive academic terms commencing in 1991. These ten students will increase the quota to 74 for a five-year period.

Applications for admission to the Faculty must be received by: February 1 for Physical Therapy; April 1 for Occupational Therapy.

Upon notification of acceptance successful applicants will be required to confirm their intention to register by submitting a non-refundable $50 deposit within a specified time. The deposit will be credited toward payment of tuition upon completion of registration.

Academic Standings: It is the responsibility of applicants to ensure that official transcripts of their academic marks from high school or university are submitted to the Registrar's Office.

English Language Proficiency: English is the primary language of instruction in all faculties except Faculté Saint-Jean, where French is the primary language. Therefore, all applicants to undergraduate faculties other than Faculté Saint-Jean must possess an adequate knowledge of written and spoken English as a prerequisite to admission. For example, non-matriculated applicants and unclassified program students must comply with the requirement along with other applicants.

Applicants to Faculté Saint-Jean need not demonstrate proficiency in English prior to admission being granted. However, they must demonstrate proficiency in English before they may be granted a degree from this institution.

Regaess of country of origin or citizenship status, all applicants except for Faculté Saint-Jean will be required to demonstrate proficiency in the English language prior to admission. This demonstration may take any one of several forms:

(1) Six full years of education in English in Canada or the equivalent in another country where English is the principal language. Such education must include the Alberta Grade 12, or equivalent level, and can be in a combination of secondary and postsecondary training.

(2) Successfull completion of the equivalent of 6 years of full-time instruction in a school/institution in Alberta in which the major language of instruction is other than English, but where the level of English proficiency required for graduation is equivalent to that in English language schools/institutions in Canada.

(3) A grade of 80% or better on the diploma examination portion (only) of the Alberta English 30 course, or a grade of 6 or 7 on the International Baccalaureate Higher Level English course, or a grade of 5 on the Advanced Placement English (Language Composition: Literature and Composition) course.

(4) Graduation from a degree program offered by an accredited university at which English is the primary language of instruction and in a country where English is the principal language.

(5) A score of at least 580 on the Test of English as a Foreign Language (TOEFL) or a score of at least 90 on the Michigan English Language Assessment Battery (MELAB). The TOEFL results must include a score of at least 50 on each of the three components.

Note: Authority to hear petitions and to waive the requirement for undergraduate applicants to write the TOEFL resides with the Registrar acting on behalf of the faculties. Exemptions will be based on assessments of the applicants' English language proficiency as evidenced by a written petition and a personal interview. Please direct enquiries and petitions to the Associate Registrar, Admissions.

Having been designated as an official test centre, The University of Alberta is able to offer a series of TOEFL test administrations throughout the year. Six Special and six International examinations are held each year. Further information and application forms may be obtained from Student Access Centre, Office of the Registrar, Administration Building, University of Alberta.

172.1.2 Occupational Therapy

BScOT

Those wishing to enroll in the BSc Occupational Therapy program are required to complete a pre-professional year prior to applying for admission to the Faculty. Though there are a number of faculties open to students entering the University from high school, those seeking admission to the Occupational Therapy program are advised to complete their pre-professional year in the Faculty of Science. Students must include in their pre-professional year the 30 units of course weight required for admission to Occupational Therapy while still meeting the requirements of the Faculty of registration.

OCCTH 106/107 will be accepted for credit within the pre-professional year in the Faculty of Science. In other faculties, students may be required to register in OCCTH 106/107 in addition to their 30 units of course weight. OCCTH 106/107 are also offered in the first term of Intersession at the University of Alberta. The deadline is April 1 for receiving applications for the following Winter Session, and June 1 for receipt of admission documents. **Note**: Pending the official acceptance of agreement between the governments of Saskatchewan and Alberta, the pre-professional requirements of OCCTH 106 and 107 will be offered off campus, in Saskatchewan, during Winter Session and Intersession.

Admission to the Occupational Therapy program will be based on academic performance. Students with the equivalent of one or more years of university-level coursework will be considered for admission as follows:

The admission GPA will be based on 30 units of course weight and must include:

PSYCO 104/105 or equivalent
OCCTH 106/107
6 units of course weight in a laboratory science
12 units of course weight in electives
also see: Transfer credit

Applicants who have completed more than one year of university-level coursework may use senior courses to meet psychology, laboratory science and elective requirements.

The laboratory science requirements can be met by completing six units of course weight from either physics, chemistry, biochemistry, genetics, and physiology with laboratory components, or from the following areas:

BIOL 100 or equivalent
GENET 197 or equivalent
PESS 200, 300 or equivalent
ZOOL 120 or equivalent
MICRB 193 or equivalent

Where applicants wish to present a laboratory science course in such areas as geography, botany, geology, computing science, or entomology, they may only do so if they have completed at least three units of course weight in one of the courses listed previously. Statistics, experimental psychology, and applied probability cannot be used to satisfy the laboratory science requirements, but may be used to satisfy requirements in other areas of the program.

Applicants who have completed at least one year of occupational therapy coursework will be considered for transfer or readmission to the program, and not part of the first time applicant pool. (Admission on this basis will be contingent upon the availability of sufficient space within the program.)

Students seeking to transfer or apply for readmission to the program must meet promotion requirements of the Faculty.

Selection Procedure

Preference will normally be given to those students with the highest overall standing and who have completed a full course load during one winter session.

For admission purposes applicants will be rank ordered according to their admission GPA. In the event of a rank tie applicants will be compared using:

(1) their best GPA under the most recent full course load (normally five full courses) then, if necessary,

(2) their GPA on the required courses (OCCTH 106/107, PSYCO 104/105 and laboratory science).

Transfer Credit

Each application will be examined on its own merits, taking into consideration academic standing in courses previously taken. Credit may be granted for previous university-level coursework that was completed within a 10-year period prior to the date of application. Depending upon their overall academic standing, students may be required to audit courses for which they have previously received credit.

Transfer credit will not be granted for physical education activity and coaching courses that are below the 300-level, nor for courses used to clear matriculation deficiencies.

Under normal circumstances transfer credit for a maximum of 39 units of course weight may be granted in order to meet requirements for a BSc in Occupational Therapy.

Orientation Week

The BScOT program requires that each student, after being accepted into the program, attend a five-day orientation week, prior to the beginning of the first term.

Fieldwork Policy

All students are required to complete four full-time fieldwork placements at approved clinical facilities under the supervision of qualified staff: each placement is assigned a specific course number, and the fieldwork courses are normally scheduled as follows:

OCCTH 328 Intersession following second year
OCCTH 428 Intersession following third year
OCCTH 431, 432 second term fourth year.

Students may be required to complete some of their fieldwork courses outside of their city or province of residence. Although an effort will be made to take individual requirements into account, if a student declines a placement, that placement will be released to another. Due to the limited national supply, another placement normally will not be available until the next selection period. Students are advised that such action will lengthen their program and delay their graduation. Accommodation and travel expenses are the responsibility of the student.

Prior to undertaking fieldwork courses in each year of the program, students are required to attend a fieldwork seminar scheduled annually as well as hold a valid Cardiopulmonary Resuscitation Certificate. Students will be advised of their uniform requirements prior to their first placement.

Reexaminations are not possible in fieldwork courses. Therefore students who fail a fieldwork placement must repeat that course. They are required to re-register and pay the required course fees. Normally a student will be allowed to repeat only one fieldwork course. In the event that a student fails the repeated course or a second separate fieldwork course, the student will be required to withdraw from the program.

Students have the right to appeal a course grade received in a fieldwork course in accordance with §§16 and 172 of the Calendar.

Post Diploma Degree Completion Program

This program provides an opportunity for occupational therapists holding a diploma to upgrade their educational qualifications to a baccalaureate degree level. The application deadline is April 1. Further information can be obtained from the: Chair, Post Diploma Degree Completion Program, Department of Occupational Therapy, Faculty of Rehabilitation Medicine, University of Alberta, Edmonton, Alberta, T6G 2G4.

Master of Science Program

Applicants to the MScOT program are directed to the Faculty of Graduate Studies and Research section of the Calendar for admission requirements and procedures.

172.1.3 Physical Therapy

Requirements for the Basic Four-Year Program

The deadline date for application to Physical Therapy is February 1. Questions regarding the requirements for admission should be addressed to the Office of the Dean, Faculty of Rehabilitation Medicine.

There are two categories of applicants who may apply for admission to the first year of the Physical Therapy program:

(1) Those applying on the basis of high school,

(2) Those applying on the basis of transfer credit from a postsecondary institution.

Admission to the basic program is based on:

(1) academic standing weighted 60%

(2) an interview weighted 40%

Academic Requirements

(1) **High School Applicants**

Five full subjects are required:

a. English 30
b. Mathematics 30
c. Physics 30
d. Subject from Group A or C (Biology 30 recommended)
e. Subject from Group A, B, or C (Chemistry 30 recommended)

Note A: Two subjects in Group D (1-6) may replace Group A, provided Social Studies 30 is not also presented. Refer to §13 in the Calendar for details on subjects included in each group.

Note B: Subjects taken at summer school immediately prior to the year of admission will not be available for calculation in the academic score.

Refer to §13.3.2 Admission Requirements of the University Calendar for details on courses included in Groups A, B, and C.

Scores on these five required subjects will be averaged to obtain the academic score.

If, in addition to these high school subjects, an applicant also presents less than 30 units of course weight transferrable from a postsecondary institution, these transfer courses may also be taken into consideration by the Admissions Committee.

Applications from persons whose matriculation pattern does not conform with the guidelines as described above will not be considered for admission to the Physical Therapy program until the deficient subject has been made up either at the high school level or at the first year level at a university or college.

(2) **Postsecondary Applicants:** (Matriculation and one or more years at university or an equivalent).

Only persons who have taken the three compulsory senior matriculation subjects (English 30, Mathematics 30 and Physics 30) or their equivalent will be considered in this category.

The academic score is calculated by averaging the scores of the most recent 30 units of course weight. Activity courses from Physical Education, studio courses from Fine Arts, and practicum courses will not be considered as part of the required 30 units of course weight.

Interview Requirement

A structured interview score is conducted which evaluates the applicant in the following areas: motivation, ability to relate to others, self-appraisal, maturity, ability to assess a problem, and a sense of responsibility. This interview takes approximately 30-45 minutes and, wherever possible, will be conducted by three interviewers from among the following groups: the Faculty, the clinicians, the students and the lay public. Interviewers are trained in the interview process and in assigning interview scores. They do not receive any prior information regarding an applicant's academic background.

Interview Selection

The deadline date for receiving transcripts of first term courses and transcripts from previously completed courses is March 15:

(1) For those applicants currently studying, the results of the December-January examinations will be used to determine an interim academic score.

(2) For those applicants who are not studying at present the results of the most recent five full course equivalents will be used to determine the interim and final academic score.

The top-ranked applicants will be invited for an interview in May. **Selected applicants will be contacted in mid-April as to the exact date and time of the interview in early May.**

Applicants living in Canada and the United States are required to attend the interview on the stipulated dates if they want their application to proceed. Applicants residing outside the North American continent must contact the Office of the Dean of the Faculty of Rehabilitation Medicine to make alternative arrangements.

Upon receipt of the final transcripts, any applicant, who has not been interviewed but who obtains a final academic score competitive with the lowest academic score of those already interviewed in May, will be offered an interview at a later date.

Final Selection

The deadline date for receiving final transcripts from postsecondary institutions is June 15. The deadline date for receiving final high school transcripts is August 1.

(1) A composite score is calculated from the final academic score (weighted 60%) and the interview score (weighted 40%), and the applicants with composite scores ranked in the top 66 will be accepted into the first year of the physical therapy program. An applicant whose interview score is exceedingly low may not be accepted for admission regardless of academic score.

(2) Final selections are made on two occasions: at the end of June for those with completed transcripts by that time, and again in early August for high school applicants and for those held pending from the June selection.

(3) Non-Resident Policy: See §13 for the university policy on admission of nonresidents to quota programs.

The Faculty strives to admit a minimum of 5% of the students on student authorization and 10% non-Alberta Canadians, provided that no non-resident of Alberta is admitted who is less qualified than any Alberta resident who is denied admission.

Basis for acceptance of foreign applicants shall be on the academic score which should be at least 85%.

(4) **English Language Proficiency Requirements:** See §13 for the university policy on English Language Proficiency. If the TOEFL is required, the minimum score requirement is 580.

Test of Spoken English (TSE) is also required. All applicants who are required to submit the results of the TOEFL must also submit the results of the TSE with a minimum score of 200. For further information contact the Examination and Timetabling Division, Office of the Registrar, 120 Administration Building.

Requirements for Post-Diploma Degree Completion Program

The degree completion program provides an opportunity for physical therapists holding a diploma in physical therapy acceptable to the Department of Physical Therapy to upgrade their educational qualifications to a baccalaureate degree level.

Individuals must have completed a minimum of 250 hours per year of clinical practice in the two years immediately preceding the year of intended registration in the post diploma degree completion program.

Individuals who have been out of clinical practice for longer than two years must complete a re-entry or similar program prior to being admitted to the degree completion program.

Applicants to the Post-Diploma Degree Completion Program whose credentials cannot be evaluated may be admitted as special students to determine their eligibility for admission to the program.

Advance credit may be considered for work completed at the University of Alberta or another institution. A ruling will only be given **at the time of admission** to the program regarding the amount of advance credit granted, and the course work to be completed.

Once a student has been admitted to the degree completion program the student will normally be required to complete the studies within a period of **two years** from the date of admission. Failure to complete studies within this period may result in the student being required to withdraw from the program. Students who are later allowed to re-enroll will be required to do so in accordance with the regulations in force at the time of re-enrollment.

Requirements for Master of Science Program

To meet the requirements of the Faculty of Graduate Studies and Research, applicants must have a Grade Point Average (GPA) of at least 6.5 in the last two years of their undergraduate baccalaureate program at the University of Alberta or an equivalent qualification from another institution. Applicants will be judged not only on their academic record, but also on their professional potential as indicated in letters of reference, interviews, and other supportive material; and they must also normally have had at least one year of clinical experience prior to being accepted into the program.

172.1.4 Speech Pathology and Audiology

The Board of Governors and the Alberta Minister of Advanced Education have approved a proposal by the Department of Speech Pathology and Audiology to eliminate the undergraduate program. The last intake of students was September 1990. Students wishing to pursue a career in Speech-Language Pathology should consult the Faculty of Graduate Studies and Research section of the Calendar.

Master of Science Program

Applicants to the MSc in Speech-Language Pathology program are directed to the Faculty of Graduate Studies and Research section of the Calendar for admission requirements and procedures.

Master of Speech-Language Pathology Program

Applicants to the MSLP program, which will commence in 1992, are directed to the Faculty of Graduate Studies and Research section of the Calendar for admission requirements and procedures.

172.1.5 Transfer Credit

Those applicants wishing to apply for transfer credit are asked to direct inquiries to the Chair of the Department concerned. Each application will be examined on its own merits, taking into consideration academic standing and courses previously taken.

172.2 Academic Standing and Graduation

(1) **Passing Grade:** Under normal circumstances each student must obtain a grade of no less than 4 in every course during the student's program of study.

(2) **Failure in Fieldwork or Clinical Work:** Should a student fail a fieldwork placement/clinical practice/clinical internship and wish to challenge that decision, the challenge must be submitted in writing by the student to the fieldwork/clinical coordinator within ten days of the student's receipt of an unsatisfactory report. A hearing will normally take place within 30 days.

(3) **Promotion and/or Continuation:** Grading: Marking in the Faculty of Rehabilitation Medicine is on a 9 point scale. The word description of the nine grades is as follows:

9 - Outstanding	4 - Pass
8 - Excellent	3 - Fail
7 - Very Good	2 - Fail
6 - Good	1 - Fail
5 - Pass	

a. Any student failing to obtain a minimum grade point average of 5.5 in any academic year will be required to withdraw from the Faculty.

b. Any student obtaining a grade of 3 in any course but with an overall grade point average of 5.5 or better will be allowed one reexamination upon recommendation of the Faculty Revisions Committee, and will be required to obtain a grade of 4 or better.

In the event that a student fails the reexamination, the student will be required to repeat the course and meet all other requirements of the Revisions Committee.

Students identified as second-time problem students by the Revisions Committee and referred to the Department Chair for review may also be required to withdraw.

(4) **Grade of Incomplete:** Subject to the approval of the Dean, a grade of incomplete shall normally be used where a student is prevented by illness, domestic affliction or other extreme circumstances from completing the course requirements at the specified time; where this grade has been given the student is required to submit the assignment within ten days after the completion of the series of final examinations in which this particular course was scheduled, except in cases where, at the discretion of the Department Chair, the Dean grants an extension of time. Failure to comply with this regulation will result in a grade of 0 for the portion of the course in which the grade of incomplete was granted.

(5) **Time Limits for Completion of Program:** Students will normally be required to complete all requirements for the award of their undergraduate degree within four years for Physical Therapy, and three years for Occupational Therapy and Speech Pathology and Audiology from the date of admission to the Faculty.

(6) **Post-diploma Degree completion:** Students admitted to the fourth year of the BScOT and BScPT programs will normally be required to complete all requirements for the award of their undergraduate degree within two years of the date of admission.

(7) **Electives:** In the Faculty of Rehabilitation Medicine an elective course will be approved if it (a) does not duplicate material covered in any compulsory course in the student's program; (b) does not duplicate material covered in the previously approved elective courses; (c) is offered at a time where no timetable conflict exists. Permission to take courses in other universities towards meeting the elective requirements of the student's program will normally be granted if the above conditions are met; credit will be granted for approved off-campus courses, providing a grade of 5 or its equivalent is obtained.

(8) **Residence Requirements:** The residence requirement for the Post Diploma (Degree Completion) program in the Department of Occupational Therapy and in the Department of Physical Therapy normally consists of completion of 24 units of course weight offered by the University of Alberta either "on" or "off-campus" in Winter Session, or Intersession, of which at least 18 units of course weight must be taken within a twelve month period.

(9) **First Class Standing:** For the purpose of granting First Class Standing and for the granting of awards

open to students in more than one Department in the Faculty of Rehabilitation Medicine, a full normal academic course load is defined as a minimum of 30 units of course weight taken during the Winter Session.

(10) **Academic and Clinical Requirements:** In order to graduate a student must have met the academic and clinical requirements outlined in the Calendar.

(11) **Degree with Distinction:** The "Degree with Distinction" will be granted to students who obtain a minimum cumulative GPA of 7.5 or better, during the final two years (third and fourth years) of the program, in each of which the student must take a minimum of 18 units of course weight in the Winter Session. Post Diploma Degree Completion students are not eligible to receive the Degree with Distinction.

(12) **Repeating of Courses:**

a. Students will be allowed to repeat a failed course only once.

b. Students registered in the Faculty of Rehabilitation Medicine will not be allowed to repeat any successfully completed course in their program.

c. Students in any faculty will not be allowed to repeat for credit any successfully completed course offered by the Faculty of Rehabilitation Medicine.

(13) **Reexamination Criteria:**

a. Students in the Faculty of Rehabilitation Medicine may be permitted a reexamination provided that:

1) The student's GPA is 5.5 or greater for the term in which the course to be reexamined was taken.

2) The weight of the final examination is 40% or higher.

3) The student received a grade of 3 in the course to be reexamined.

4) The course to be reexamined is a required course in the student's program.

b. If a reexamination is approved the following policies apply:

1) The reexamination should have the same percentage value as the original final examination. However, a greater value may be assigned at the discretion of the instructor. The student will be notified in writing of the weight of the reexamination prior to its being written.

2) The reexamination mark replaces the original examination mark in determining the final grade in the course.

3) Students are normally permitted only one reexamination during academic program.

4) A student who fails the reexamination must repeat the course and meet all other requirements set by the Revisions Committee.

5) A student who fails the reexamination for a prerequisite course must withdraw from all courses having prerequisite.

6) The student will be advised by the Dean's Office whether approval has been granted, and will then have the option to write the reexamination or repeat the course.

c. Reexaminations are not normally allowed in the following instances:

1) for clinical courses

2) to students who are repeating a year

3) in a course where there is no final exam

d. The deadlines for applying for a reexamination will normally be the following:

1) First term course: January 10

2) Second term or full session course: May 10.

Reexaminations for first term courses must be written by March 1. Reexaminations for second and full session courses must be written by the end of the August reexamination period.

e. Students requesting a reexamination must follow the procedures detailed in §16.5.4 of this calendar.

172.3 Credit by Special Assessment

A student admitted to a degree program in the Faculty of Rehabilitation Medicine, may receive degree credit in a limited number of courses for knowledge or skill obtained in either a university or non-university context. "Non-university context" may include work completed at institutions not accredited for degree purposes or may refer to periods of work experience that bear relationship to university courses. The following conditions apply:

(1) **Limitations:**

a. Number of courses allowed: Normally, only 12 units of course weight obtained by special assessment may be applied to a four-year degree program in the Faculty of Rehabilitation Medicine. In exceptional circumstances, on the recommendation of a Department Chair, the Dean may permit additional credits by special assessment.

b. A student may attempt credit by special assessment only once for each course.

c. Courses not accepted: Graduate courses and certain undergraduate courses cannot be attempted by special assessment. Please contact Department concerned for courses offered in this category.

d. Special Students will not be permitted to take courses under this category.

(2) **Timing of Assessment (deadlines):** The deadline for completion of the examination or assessment is three months from the date of application for credit by special assessment. Unless there are extenuating circumstances, students who fail to complete assessment requirements by the specified deadline will be considered to have cancelled their application and will have to re-apply should they wish to complete that assessment.

(3) **Transfer of "Credit by Special Assessment":** Students who have obtained credits by special assessment (or similar means) while enrolled in another university, college, faculty, or school, will be given advance credit in such courses only to the extent that the Faculty of Rehabilitation Medicine accepts such courses in its degree programs.

(4) **Grades Assigned to Special Assessment Courses:** In a course attempted by special assessment, the results will be recorded, either as a grade point or pass/fail according to the practice in the regular course. Students may not appeal the results in a course attempted by special assessment. A course attempted by special assessment and failed will be recorded on students' transcripts and will be computed into their academic records.

(5) **Fees:** For information regarding fees please refer to §15.2.11.

172.4 Additional Regulations

(1) **Uniform:** Students in Occupational Therapy and Physical Therapy will be advised of their requirements at the time of registration.

(2) **Fieldwork/Clinical Practice:** In certain periods students are required to successfully complete fieldwork/clinical practice at approved institutions under the supervision of qualified staff. During these periods students will follow the administrative procedures and regulations of that institution.

(3) Prior to beginning student internship, students in all Departments in the Faculty of Rehabilitation Medicine are required to hold a valid Basic Cardiopulmonary Resuscitation Certificate. Students in Occupational Therapy are also required to attend fieldwork orientation seminars.

172.5 Appeals and Grievances

Every student is entitled to have individual grades reviewed. Students should first approach the instructor concerned, then if necessary see the Department Chair.

Decisions affecting a student's academic standing may be heard by the Faculty Academic Appeals Committee. Full academic appeal regulations may be obtained in the Office of the Dean.

Unsuccessful appeals at the Faculty level may be further appealed to the GFC Academic Appeals Committee.

Deadline

All appeals regarding academic standing must be received in writing by the Dean, within 21 calendar days, following publication of final results.

173 Programs of Study

173.1 The Degree of BSc in Occupational Therapy

Promotion

Students will normally complete courses according to the sequence outlined below. Where a student has deficient credit in a course or courses from a previous term, either through failure or otherwise, that student must normally clear the deficiency the next time the course(s) is/are offered and will be considered a repeating student.

Repeating Students

Repeating students will normally be required to complete a full academic program of 30 units of course weight in order to be considered for promotion. However, no students will be required to take more than the normal number of courses to complete their programs.

		total hours of instruction
Second year		
OCCTH 203	Histology	13
OCCTH 208	Introduction to Theory and Practice in Psychiatry	39
OCCTH 209	Therapeutic Occupation	78
OCCTH 210	Pathology	13
OCCTH 211	Assessment and Evaluation Techniques	78
OCCTH 304	OT, in Psychosocial Dysfunction	39
OCCTH 333	Medicine and Surgery	39
OCCTH 334	Orthopedics	52
PHYSL 161	Physiology	104
REHAB 282	Gross Anatomy I	91
REHAB 283	Gross Anatomy II	91
REHAB 350	Lifespan Development	39
Intersession		
OCCTH 328	Fieldwork	8 weeks
Third year		
OCCTH 312	Environmental Design for Disabled Persons	39
OCCTH 313	Orthotic	39
OCCTH 403	OT in Neurology	39
OCCTH 425	Child Dysfunction	78
OCCTH 435	Advanced Psychiatry	39
REHAB 351	Neuroanatomy	39
REHAB 352	Work Physiology for Rehabilitation Therapists	52
REHAB 353	Neuroscience for Rehabilitation	39
REHAB 354	Clinical Neurology	39
SOC 300	Principles of Sociology	39
Statistics (minimum 3 units of course weight)		39
Intersession		
OCCTH 428	Fieldwork	8 weeks
Fourth year		
OCCTH 404	Therapeutic Approaches to Psychosocial Dysfunction	39
OCCTH 431	Fieldwork	8 weeks
OCCTH 432	Fieldwork	8 weeks
OCCTH 455	Administrative Issues in Rehabilitatio	39
OCCTH 456	Occupational Therapy in Physical Rehabilitation	39
REHAB 462	Research in Rehabilitation	39
REHAB 463	Geriatrics and Rehabilitation	39
Senior electives or equivalents (six units of course weight)		78

173.2 The Degree of BSc in Physical Therapy

(1) Under normal circumstances, a student enrolled in physical therapy will not be allowed to take required courses in one year of the program until all the required courses of the previous year of the student's program have been successfully completed.

(2) Students will not be required to take more than the normal number of courses to complete their program.

(3) Physical Therapy students are required to pass both the practical and theoretical examinations of any Physical Therapy course having a practical and theoretical component.

Any student who has obtained a grade of 3 or less in a course must upgrade that mark to at least a

4 by one reexamination in order to continue in the Faculty. Reexamination is contingent upon the the student having an overall grade point average of 5.5 or better, inclusive of the failed course. Any student failing to acquire a grade of 4 or better upon reexamination may be allowed to repeat the course or may be required to withdraw from the program.

(4) In order to meet patient protection standards suggested by Alberta Social Services and Community Health, and to protect the health of students, it is required that, prior to clinical experience each student have (1) a medical examination including a tuberculin skin test, and (2) primary or reinforcement immunization doses for diptheria, tetanus, poliomyelitis, and rubella.

The physical examination, tests, and immunizations can be obtained from either the University Health Services or a family physician. Immunizations can also be obtained from local health units. Certificates indicating that these requirements have been met must be received by the Department of Physical Therapy before August 15. A detailed statement of this requirement is available at the Faculty of Rehabilitation Medicine Office. During the second and third year the Department Chair has the right to request a reexamination for any student who has had an illness or injury which could prove hazardous to the student or his/her patient.

(5) **Clinical Practice Policy:** Clinical Practice is defined as practical placements within various clinical facilities during the third and fourth years of the Physical Therapy program. Each student is required to complete a minimum 1200 hours of approved clinical practice prior to graduation. This clinical practice is divided into six courses. Each course consists of a six-week, full time placement at a clinical facility approved by the Department.

(6) **Clinical Practice Failure Policy**: A student must successfully complete each clinical course in order to graduate from the program .

A student may fail no more than one clinical course during the student's program. If a third year student fails a clinical course, that course will normally have to be successfully repeated before clinical courses in the fourth year can be taken. If a student fails a repeat clinical course or fails a second clinical course, the student will normally be required to withdraw from the program.

		total hours of instruction
First year		
PTHER 200	Histology	39
PHYSL 161	Physiology	104
PSYCO 104	Basic Psychological Processes	39
PTHER 206	Massage	39
PTHER 212	Introduction to Physical Therapy	39
PTHER 213	Introduction to Assessment Skills I	39
PTHER 311	Biomechanics in Physical Therapy	39
PTHER 313	Introduction to Assessment Skills II	39
REHAB 282	Gross Anatomy I	91
REHAB 283	Gross Anatomy II	91
One approved statistics		39
Second year		
OCCTH 335	Behavior in Illness	39
PTHER 312	Introduction to Clinical Practice	52
PTHER 314	Introduction to Orthopaedics and Selected Treatment Techniques	91
PTHER 321	Electrophysical Agents I	65
PTHER 322	Electrophysical Agents II	78
PTHER 350	Facilitation Techniques	39
PTHER 352	Introduction to Respiratory Function	39
REHAB 350	Lifespan Development	39
REHAB 351	Neuroanatomy	39
REHAB 352	Work Physiology for Rehabilitation Therapists	52
REHAB 353	Neuroscience for Rehabilitation	39
REHAB 354	Clinical Neurology	39
PMCOL 302	Introduction to Pharmacology	39
Third year		
PTHER 420	Neurology	78
PTHER 421	Neurology Clinical Practice	6 weeks
PTHER 422	Thoracic Conditions	39
PTHER 423	Thoracic Clinical Practice	6 weeks
PTHER 424	Orthopaedics	78
PTHER 425	Rheumatology	39
PTHER 426	Orthopaedic/Rheumatology Clinical Practice	6 weeks
PTHER 418	Selected Clinical Problems	78
Intersession		
PTHER 429	Clinical Practice IV	6 weeks
Fourth year		
PTHER 431	Clinical Practice V 6 weeks	
PTHER 433	Clinical Practice VI6 weeks	
PTHER 464	Administration II	39
PTHER 484	Assessment and Treatment of Joints	39
PTHER 486	Intergrated Approach to Sensory Motor Treatment in Neurology	39
REHAB 462	Research Methods in Rehabilitation	39
REHAB 463	Geriatrics and Rehabilitation	39
Approved elective		39

173.3 The Degree of BSc in Speech Pathology and Audiology

No students will be admitted to the BSc in Speech Pathology and Audiology program after September 1990. Those students admitted in September 1990 will be allowed to graduate by meeting current BSc requirements. To be allowed to continue in the Department of Speech Pathology and Audiology, a student normally will carry a minimum of 30 units of course weight each year. To graduate from the program a student must successfully complete the program of study and acquire a minimum of 300 clock hours of directly supervised practicum. Normally courses will be taken in the sequence below. Under normal circumstances, enrollment in speech pathology and audiology courses will be restricted to students of the Department of Speech Pathology and Audiology.

		total hours of instruction
Third year		
SPA 389	Motor Speech Disorders	52
SPA 390	Language Disorders in Adults	52
SPA 393	Voice Disorders	52
SPA 396	Stuttering	52
SPA 400	Introduction to Clinical Practice	13
SPA 405	Aural Rehabilitation	52
SPA 410	Clinical Practicum	52
REHAB 354 or PSYCO 377	Clinical Neurology Human Neuropsychology	39 39
EDPSY 469 or PSYCO 223	Human Development Developmental Psychology	39 39
STAT 141 or equivalent		52
Linguistics (3 units of course weight)		
LING 204 is recommended		39
Elective (3 units of course weight)		39
Intersession		
SPA 480	Clinical Internship	10 weeks
Fourth year		
SPA 410	Clinical Practicum	104
SPA 477	Research Literacy for the Speech Language Pathologist	19.5
SPA 479	Program Management in Speech Pathology	19.5
SPA 489	Deafness	65
SPA 491	Clinical Audiology	65
SPA 493	Introduction to Allied Rehabilitation Professions	19.5
SPA 496	Professional Prospectives	26
Approved electives (12 units of course weight at the senior level)		156

173.4 Graduate Programs in Rehabilitation Medicine

Master of Science degrees are offered in the areas of Occupational Therapy, Physical Therapy, and Speech/Language Pathology. Applicants to these programs are directed to the Faculty of Graduate Studies and Research section of the Calendar for admission requirements and procedures. A Master of Speech-Language Pathology will be offered commencing September 1992.

174 Details of Courses

174.1 General Information

In the Faculty of Rehabilitation Medicine, all courses are restricted to students within the Department concerned, with the exception of those designated as follows:

(a) * open to all students
(b) ** open to other students with permission of the instructor.

Courses required of students in the Faculty of Rehabilitation Medicine are listed here.

Each course is designated by its computer abbreviation and by a number.

The course title is followed by the symbol "★" and a number indicating the course weighting used in computing the grade-point average. Usually a single-term course carries three units of course weight, a full-session course, six units of course weight. The statement in parentheses refers to the number of hours required by the course each week. For single-term courses the term in which the course is offered is listed first. For full-session courses the time allotment is the same in both terms unless otherwise indicated. The next three figures, enclosed in parentheses, indicate the hours of instruction required by the course in a week. The format is as follows: the first position indicates lecture hours; the second position indicates seminar hours (s), demonstration (d), clinic (c), or lecture-lab (L); and the third position indicates laboratory hours. Courses not included in the computation of grade-point averages are marked "Credit".

The appearance of a course description in the following list does not constitute any guarantee that the course will actually be offered in the forthcoming session. Information as to which courses will be offered, the names of the instructors, and all further details must be sought from the department concerned.

Physical Requirements for University Courses

The University has a commitment to the education of all academically qualified students and special services are frequently provided on campus to assist disabled students.

Nevertheless, some courses make certain unavoidable demands on students, with respect to the possession of a certain level of physical skill or ability, if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the Department concerned and the Disabled Student Services Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for all off-campus courses, instructors may be obliged to refuse registration in such courses.

174.2 Rehabilitation Medicine

174.2.1 Undergraduate Courses

REHAB 282 Gross Anatomy I
★3 (either term, 3-0-4). Lectures and dissections on the upper limb, supplemented by classes in functional anatomy in the area.

REHAB 283 Gross Anatomy II
★3 (either term, 3-0-4). Lectures and dissections on the lower limb and trunk, supplemented by classes in functional anatomy of the area. Prerequisite: REHAB 282.

REHAB 350 Lifespan Development
★3 (either term, 2-0-1). The study of the development of the child to maturity, the changing periods of adulthood and the significance of the aging process. Study will include both physical and psychosocial factors as they relate to rehabilitation. Prerequisite: PSYCO 104 or equivalent.

REHAB 351 Neuroanatomy
★3 (either term, 3-0-0). A detailed study of the structure and function of the human nervous system. Prerequisite: REHAB 283, PHYSL 161.

REHAB 352 Work Physiology for Rehabilitation Therapists
★3 (either term, 3-0-2/2). The acute and chronic physiological response to pathology and levels of physical activity in individuals seen by the rehabilitation team and their treatment. Prerequisite: PHSYL 161 or equivalent. Note: Labs of two hours each will be offered to two groups of students on alternate weeks.

REHAB 353 Neuroscience for Rehabilitation
★3 (either term, 3-0-0). The mechanisms of neural activity and signalling, the functional aspects and integrative actions of sensory and motorsystems and the neuroscience of higher cognitive functions will be covered. Emphasis will be on integration and function. Corequisite: REHAB 351.

REHAB 354 Clinical Neurology
★3 (either term, 3-0-0). An overview of neurological conditions which are referred to rehabilitation departments for treatment. Prerequisite: REHAB 353.

REHAB 462 Research in Rehabilitation
★3 (either term, 3-0-0). The theory and principles of scientific method and research design procedures, and their application to rehabilitation in laboratory and clinical settings. Prerequisite: One half course in statistics.

REHAB 463 Geriatrics and Rehabilitation
★3 (either term, 2-0-1). The study of the special needs

of the geriatric client, and the application of rehabilitation techniques in the home and in institutions.

REHAB 476 Ergonomics
★3 (either term, 2-0-1). Ergonomics from an industrial and health care perspective.

174.3 Occupational Therapy

174.3.1 Undergraduate Courses

***OCCTH 106 Communication Theory and Helping Relationship**
★3 (either term, 3-0-0). Interpersonal communication theory and application to health care. Exploration of values and attitudes as they affect professional/client relationships.

***OCCTH 107 Models, Approaches, and Service Delivery**
★3 (either term, 3-0-0). Fundamental concepts of occupational therapy and their application in health care delivery. Implications of legal, educational, and governmental influences on service models.

OCCTH 203 Histology
★1 (either term, 1-0-0). Summary of structure and function of body tissues.

OCCTH 208 Introduction to Theory and Practice in Psychiatry
★3 (either term, 3-0-0). Introduction to the clinical disorders and other psychosocial issues. Presentation of case studies to illustrate clinical disorders and OT's role in assessment and intervention.

OCCTH 209 Therapeutic Occupation
★3 (either term, 2-0-4). Lectures in the therapeutic use of activity. Practical experience in selected activities suitable for use as therapeutic media, with emphasis on task analysis. Demonstrations of adaptive equipment and techniques.

OCCTH 210 Pathology
★1 (second term, 1-0-0). An introduction to the general principles of disease and disorders through the study of pathology. Prerequisite: OCCTH 203.

OCCTH 211 Assessment and Evaluation Techniques
★3 (either term, 0-6L-0LcL). Theory and practical classes in evaluation, assessment, and treatment techniques. Corequisites: OCCTH 209, 333, 334, REHAB 282, 283.

OCCTH 304 Occupational Therapy in Psychosocial Dysfunction
★3 (either term, 0-3L-0LcL). Designed to link previous study of behavior and the theoretical aspects of occupational theory with the requirements of clinical practice in the area of psychosocial dysfunction. Prerequisite: OCCTH 208.

OCCTH 312 Environmental Design for Disabled Persons
★3 (either term, 1-0-2). Theory and practical application of environmental factors as related to disabled, including barrier-free design, electronics, environmental controls, mobility equipment, computers.

OCCTH 313 Orthotics
★3 (either term, 1-0-2). Lectures and practical classes in the principles of design and methods of fabrication of orthotic devices. Prerequisite: OCCTH 211.

OCCTH 328 Fieldwork
★3 (8 weeks). A period of 8 weeks in approved hospitals and institutions for practical experience within occupational therapy departments. Prerequisite: Consent of department.

OCCTH 333 Medicine and Surgery
★3 (second term, 3-0-0). A series of lectures on common diseases and conditions encountered in the practice of occupational therapy, medical and surgical conditions, and their treatment. Corequisites: OCCTH 210, 211, REHAB 282, 283.

OCCTH 334 Orthopedics
★3 (either term, 4-0-0). A study of tissue biomechanics in normal and selected pathological conditions and the etiologies, medical and occupational therapy assessment and intervention of orthopedic disorders. Corequisites: OCCTH 211, 333, REHAB 282, 283.

OCCTH 335 Human Behavior in Illness and Disability
★3 (either term, 3-0-0). Orientation to psychosocial influence in health, illness and disability. Reactions to stress caused by physical trauma, hospitalization, and old age.

OCCTH 340 Behavior Management in Occupational Therapy
★3 (either term, 0-3s-0). An introduction to the implementation of behavior management practices within occupational therapy. Emphasis will be on the design and application of programs in behavior modification as they relate to particular clinical settings. Prerequisites: PSYCO 104/105 or equivalent.

OCCTH 403 Occupational Therapy, Theory and Practice in Neurology
★3 (either term, 0-3L-0LcL). Occupational Therapy principles, patient evaluation, and treatment procedures in a variety of neurological conditions. Prerequisite: REHAB 351. Corequisite: REHAB 353.

OCCTH 404 Therapeutic Approaches to Psychosocial Dysfunction
★3 (either term, 0-3s-0). Principles of psychotherapy, group therapy, and sexuality in rehabilitation. Prerequisite: OCCTH 304.

OCCTH 408 Occupational Therapy Theory
★3 (either term, 0-3s-0). Selected conceptual models of occupational therapy are examined in terms of their philosophical base, conceptualization, and application to practice. Open only to post diploma degree completion students unless department consent is granted.

OCCTH 413 Special Fieldwork
★3 (either term, 0-3s-3). A course designed to allow senior undergraduate students to pursue the practical application of ocupational therapy techniques in a specialized setting. These settings depend on the student's stated objectives for pursuing an area of interest, as well as the consent of the agency where the fieldwork is to be done. Enrollment is limited. Prerequisite: Consent of department. Note: May not be used for credit as an elective or to replace OCCTH 328, 428, 431, 432. This course is extra to the requirements for the BScOT degree.

OCCTH 425 Child Dysfunction
★6 (either term, 4-0-2). The study of abnormal physical, psychological, social, and intellectual development from birth to adolescence with emphasis on assessment and remedial programming in an occupational context. Prerequisites: REHAB 350, 351.

OCCTH 428 Fieldwork
★3 (8 weeks). Eight weeks in approved institutions or hospitals for practical experience in occupational therapy departments. Prerequisite: OCCTH 328.

OCCTH 431 Fieldwork
★4.5 (either term, 8 weeks). Credit. Practical application of occupational therapy techniques under the supervision of occupational therapy staff in approved facilities. Prerequisite: OCCTH 428.

OCCTH 432 Fieldwork
★4.5 (either term, 8 weeks). Credit. Practical application of occupational therapy techniques under the supervision of occupational therapy staff in approved facilities. Prerequisite: Consent of department.

OCCTH 435 Advanced Psychiatry
★3 (either term, 0-3s-0). A review of detrimental and beneficial factors influencing occupational performance. Psychiatric disorders, their diagnosis, classification and treatment, with specific emphasis on the role of the occupational therapist in assessment and intervention. Prerequisite: OCCTH 304.

OCCTH 455 Administrative Issues in Rehabilitation
★3 (either term, 3-0-0). Lecture presented by a variety of health care professionals and University staff concerning the planning, development, organization, and administration of occupational therapy services within the Canadian health care system. Prerequisite: Consent of department.

OCCTH 456 Occupational Therapy in Physical Rehabilitation
★3 (either term, 3-0-0). Current developments and OT practice in physical rehabilitation, including biofeedback, assessment and treatment of hands, work assessment, and task analysis.

OCCTH 498 Special Seminars
★3 (either term, 0-3s-0). Content varies from year to year. Topics will be announced prior to registration period. Prerequisite: Consent of department.

OCCTH 499 Individual Study
★3 (either term, 0-3s-0). A course intended to allow the senior undergraduate student to pursue a topic of interest in more depth than the classroom structure permits. This may take the form of directed reading, laboratory or clinical experience. Prerequisite: Departmental consent.

174.4 Physical Therapy

174.4.1 Undergraduate Courses

PTHER 200 Histology
★3 (either term, 3-0-0). An introduction to the structure and function of body tissues.

PTHER 206 Massage
★3 (either term, 1-0-2). Theory and practice of massage. Prerequisite: REHAB 282.

PTHER 212 Introduction to Physical Therapy
★3 (either term, 1-0-2). An introductory course dealing with the underlying principles on which the practice of physical therapy is based.

PTHER 213 Introduction to Assessment Skills I
★3 (either term, 1-0-2). An introduction to the theory and practice of assessment skills including measurements of joint range of motion and the theory and practice of manual muscle testing. Prerequisites: PTHER 212, REHAB 282. Corequisite: REHAB 283.

PTHER 310 Scientific Basis of Athletic Injuries
★3 (either term, 2-0-1). An introduction to orthopaedics and related topics which may be encountered by athletic therapists and physical educators (for Physical Education students in the Sports Science route only). Prerequisites: PESS 100 (Structural Anatomy) and PESS 120 (Introduction to Athletic Therapy).

PTHER 311 Biomechanics in Physical Therapy
★3 (either term, 3-0-0). Biomechanical principles and techniques with some applications to physical therapy. Prerequisite: PTHER 212.

PTHER 312 Introduction to Clinical Practice
★3 (either term, 2-0-2). The principles of patient assessment and identification of problems relevant to physical therapy. Prerequisites: REHAB 283, 351, PTHER 352.

PTHER 313 Introduction to Assessment Skills II
★3 (either term, 0-0-3). A continuation of the theory and practice of introductory assessment skills including measurement of joint range of motion and the theory and practice of manual muscle testing. Prerequisites: PTHER 212, 213, REHAB 282, 283.

PTHER 314 Introduction to Orthopaedics and Selected Treatment Techniques
★3 (either term, 3-0-4). An introduction to the study of orthopaedic conditions and their treatment, mobilizing, strengthening, and bandaging, and the analysis of gait. Prerequisite: PTHER 313.

PTHER 321 Electrophysical Agents I
★3 (either term, 3-0-2). Theory and practice of the application of low and medium frequency electrophysical agents used in physical therapy. Prerequisites: PTHER 206, 212, REHAB 283.

PTHER 322 Electrophysical Agents II
★3 (either term, 3-0-3). Theory and practice of the application of therapeutic heat and cold, high frequency currents and radiations used in physical therapy. Prerequisite: PTHER 321.

PTHER 350 Facilitation Techniques
★3 (either term, 1-0-2). Theory and practice of facilitation techniques of therapeutic exercise. Prerequisites: PTHER 206, 313, OCCTH 319, REHAB 351.

PTHER 352 Introduction to Respiratory Function
★3 (either term, 1-0-2). Theory and practice of methods for improving respiratory function. Prerequisites: PTHER 200, and PHYSL 161, REHAB 283.

PTHER 418 Selected Clinical Problems
★6 (3-0-0). A lecture series of mechanisms of disease and physical therapy management of selected clinical problems. Prerequisites: PTHER 200, 312, PHYSL 161, and REHAB 283.

PTHER 420 Neurology
★5 (either term, 3-0-3). An introduction to common problems associated with neurological conditions encountered by the physical therapist and a survey of the approaches to the treatment of selected neurological conditions. Prerequisites: PTHER 312, 350, REHAB 351, 353, 354.

PTHER 421 Neurology Clinical Practice
★3 (6 weeks). Credit. Clinical practice in neurological clinical conditions. Prerequisite: PTHER 420.

PTHER 422 Thoracic Conditions
★3 (either term, 3-0-0). Physical therapy assessment and treatment of conditions affecting the respiratory and aardiac systems. Prerequisites: PTHER 312, 352, REHAB 352.

PTHER 423 Thoracic Clinical Practice
★3 (6 weeks). Credit. Clinical practice in thoracic clinical conditions. Prerequisite: PTHER 422.

PTHER 424 Orthopedics
★5 (either term, 3-0-3). The study of orthopedic conditions encountered by the physical therapist and methods of assessing and treating selected problems. Prerequisites: PTHER 312, 314, 321, 322.

PTHER 425 Rheumatology
★3 (either term, 3-0-0). The study of collagen diseases, and their associated problems, including the role of the physical therapist in their management. Prerequisites: PTHER 312, 314, 321, 322.

PTHER 426 Orthopedic/Rheumatology Clinical Practice
★3 (6 weeks). Credit. Clinical practice in orthopedic and rheumatologic clinical conditions. Prerequisites: PTHER 424 and 425.

PTHER 429 Clinical Practice IV
★3 (6 weeks). Credit. Clinical practice in approved clinical facilities.

PTHER 431 Clinical Practice V
★4.5 (6 weeks). Credit. Clinical practice in approved clinical facilities.

PTHER 433 Clinical Practice VI
★4.5 (6 weeks). Credit. Clinical practice in approved clinical facilities.

PTHER 452 Selected Clinical Practice
★3 (variable).

PTHER 464 Administration
★3 (either term, 3-0-0). Issues in the ethicolegal, social, organizational, and communication aspects of physical therapy practice.

****PTHER 467 Individual Study**
★3 (either term, 3-0-0). A course intended to allow the senior undergraduate student to pursue a topic of interest in more depth than the classroom structure permits. This may take the form of directed reading, laboratory work or clinical experience. Prerequisite: Consent of department.

****PTHER 468 Sports Therapy**
★3 (either term, 3-0-2). An introduction to the prevention and care of sports injuries including the adaption of therapeutic exercise to the highly trained individual. Prerequisite: Consent of instructor.

PTHER 472 Paediatrics and the Physical Therapist
★3 (either term, 0-3L-0). Physical Therapy applied to the care of the paediatric patient in the home and in the institution.

PTHER 478 Physical Therapy in Industry
★3 (either term, 2-0-1). The provision of preventive and treatment services in industrial settings by physical therapists.

PTHER 480 Respiratory Conditions
★3 (either term, 0-3L-0). An advanced course in the pathophysiology, assessment and treatment of patients with respiratory conditions.

****PTHER 481 Cardiac Rehabilitation**
★3 (either term, 2-0-2). The physiological and psychological aspects of rehabilitation of the cardiac patients, with practical experience in their management. Prerequisite: REHAB 352 or equivalent.

PTHER 484 Assessment and Treatment of Joints
★3 (either term, 2-0-1). The assessment and treatment by manual techniques of peripheral and vertebral joints.

PTHER 486 Integrated Approach to Sensory Motor Treatment in Neurology
★3 (either term, 3-0-0). An integrated approach to the assessment and treatment of clinical problems in neurology based on theories and practice in the neurosciences in physical therapy. Prerequisite: PTHER 420.

174.5 Speech Pathology and Audiology

174.5.1 Undergraduate Courses

***SPA 280 Language Development**
★3 (either term, 3-0-0). Introduction to child language development as a multi-dimensional phenomenon. Content includes the cognitive and social basis for language as well as an overview of major achievements in semantic, syntactic, pragmatic and phonological development.

***SPA 281 Survey of Speech Pathology and Audiology**
★3 (either term, 3-0-0). An introduction to the disorders of human communication and the roles of the speech pathologist and audiologist.

SPA 389 Motor Speech Disorders
★3 (either term, 3-0-1). A study of etiologies and characteristics of motor speech disorders (dysarthrias) in children and adults with emphasis on the evaluation and management of their associated communication problems. Prerequisites: ANAT 412, and SPA 385, and LING 305.

SPA 390 Language Disorders in Adults
★3 (either term, 3-0-1). A study of the etiologies, evaluation and management of acquired language disorders in adults. Prerequisite: ANAT 412.

SPA 393 Voice Disorders
★3 (either term, 3-0-1). The etiologies and characteristics associated with voice disorders; the diagnostic and therapeutic procedures used in rehabilitation. Prerequisite: ANAT 412.

SPA 396 Stuttering
★3 (either term, 3-0-1). A study of the development, nature and treatment of stuttering. Prerequisite: PSYCO 281.

SPA 400 Introduction to Clinical Practicum
★3 (either term, 0-1c-0). Credit. Practical application of clinical procedures under direct supervision for a minimum of one hour per week. This course may also be offered during Intersession.

SPA 405 Aural Rehabilitation
★3 (either term, 3-0-1). Intensive preparation and study in depth of the problems of working with the hard-of-hearing, including speech reading techniques, auditory training and counselling. Prerequisites: SPA 379, 383 and 386.

SPA 410 Clinical Practicum
★3 (either term, 0-4c-0). Credit. Advanced practical application of clinical procedures under direct supervision. Students will normally enroll three times during their program of study, accruing a minimum of 44 supervised practicum hours during each enrollment. This course may also be offered during Intersession. Prerequisites: SPA 398 and SPA 400.

SPA 477 Research Literacy for the Speech-Language Pathologist
★1.5 (either term, 1.5-0-0). Primary emphasis is on preparation of students to be critical consumers of clinical research literature. Provides an overview of the scientific method and structure of experiments. Prerequisite: one-half course in statistics.

SPA 479 Program Management in Speech Pathology
★1.5 (either term, 1.5-0-0). This course deals with the management functions of organizing, planning, directing, monitoring and reporting in the delivery of speech pathology services. It also includes broader supra-program issues such as quality assurance through program standards, accreditation and evaluation, nonstatutory registration/licensure, and the basics of manpower planning. Issues related to prevention, screening, data collection, effectiveness, efficiency and cost benefits are integrated throughout the course.

SPA 480 Clinical Internship
★3 (10 weeks). Students normally will spend ten weeks during the summer following their third year in full-time clinical practice under direct supervision in an approved institution. A normal minimum of 157 supervised practicum hours will be obtained. Prerequisites: SPA 398, SPA 400, and one term of SPA 410.

SPA 481 Audiology for Educators of the Hearing Impaired
★6 (3-0-2). An introduction to audiology including anatomy and physiology of the auditory system, acoustics of speech, basic audiometric tests, amplification systems and habilitative procedures used by the classroom teacher. The course is restricted to students enrolled in the Faculty of Education Program for training Teachers of the Hearing Impaired. Prerequisite: Department Consent.

SPA 488 Special Topics in Speech Pathology
★3 (either term, 0-3s-0). Special Seminars. Content varies from year to year. Topics will be announced prior to registration period. The student's transcript carries title descriptive of content. May be repeated. Prerequisite: Department Consent.

SPA 489 Deafness
★3 (either term, 3-0-2). Characteristics of the deaf population with an emphasis on rehabilitative needs. An introduction to oral, aural and manual methods of communication for the deaf. Prerequisite: SPA 405.

SPA 491 Clinical Audiology
★3 (either term, 3-0-2). Examination of clinical diagnostic procedures beyond pure tone audiometry, including speech discrimination testing, impedance audiometry, site of lesion tests, and electrophysiologic tests of hearing. Discussion will also include paediatric audiology with an overview of hearing loss characteristics and personal amplification systems. Prerequisite: SPA 386.

SPA 493 Introduction to Allied Rehabilitation Professions
★1.5 (either term, 1.5-0-0). Lectures on the role and function of rehabilitation professionals by representatives from allied health disciplines.

SPA 496 Professional Perspectives
★2 (either term, 2-0-0). Promotes the transition to professional practice by facilitating student ability to develop and evaluate personal and professional perspectives on selected clinical concepts and procedures. Prerequisite: SPA 480.

SPA 499 Individual Study
★3 (either term, 3-0-0). A course intended to allow the senior undergraduate student to pursue a topic of interest in more depth than the classroom structure permits. This may take the form of directed reading, laboratory or clinical experience. Prerequisite: Department consent.

University of Alberta
Edmonton

Annuaire
1991/92 Calendar

Faculté
Saint-Jean

Attention

(1) Chaque étudiant est responsable de la totalité et de l'exactitude de son inscription. Veuillez lire l'annuaire avec soin et, en cas de doute au sujet des règlements concernant votre programme, adressez-vous à la personne compétente. (Voir article 7.)

(2) Vous servir de cet annuaire pour votre inscription. L'Université ne peut fournir plus d'un exemplaire à chaque étudiant.

(3) L'annuaire présente les principes de l'Université au moment de sa publication en ce qui concerne toute matière qui y est traitée. L'Université se réserve donc le droit de changer ce qui est décrit à l'annuaire, soit pour servir au mieux ses propres intérêts ou à cause de circonstances incontrôlables. L'Université décline formellement toute responsabilité envers toute personne ou groupe de personnes qui pourrait subir un quelconque préjudice à la suite de tels changements.

(4) Heures d'ouverture à l'Université: 8h30 à 12h, 13h à 16h30, du lundi au vendredi (excepté les jours fériés); durant les mois de mai, juin, juillet et août: 8h à 12h, 13h à 16h. Numéros de téléphone: information, campus principal - (403) 492-3113; information, Faculté Saint-Jean – (403) 465-8703.

(5) **Exigences professionnelles:** Tout étudiant ayant l'intention de poursuivre une carrière à la fin de ses études devrait contacter le secrétariat de sa faculté afin de connaître les conditions d'exercice d'une profession qui s'ajoutent à la possession d'un diplôme universitaire. Dans certains cas ces renseignements sont contenus dans l'annuaire de la faculté.

(6) Date limite pour les demandes d'admission: le 1er juin. Les autres dates limites sont indiquées à la §182.1 de l'annuaire.

(7) Tous les renseignements nécessaires pourront être obtenus aux bureaux suivants:
(toute correspondance, à l'exception de la Faculté Saint-Jean, devra porter la mention: University of Alberta, Edmonton, Alberta, T6G 2E2).

Questions académiques:
Dr. J-A Bour, Doyen, 8406, rue Marie-Anne Gaboury, Edmonton, T6C 4G9 (465-8705).
L Villeneuve, Responsable des admissions et de la gestion des dossiers, 8406, rue Marie-Anne Gaboury, Edmonton T6C 4G9 (465-8703).

Admission des étudiants canadiens, inscription, dossiers, relevés officiels, collation des diplômes:
Bureau du Registraire, Edifice de l'Administration (492-3113).

Examens et admission des étudiants étrangers:
Bureau du Registraire, Edifice de l'Administration (492-5221 et 492-4981 respectivement).

Problèmes personnels, tests d'aptitude, orientation professionnelle, problèmes dans les études, information:
Service de conseil aux étudiants, Salle 102, Athabasca Hall (492-5205).

Aide financière, prix d'excellence, et bourses:
Directeur du Bureau des Bourses, 252 Athabasca Hall (492-3495).

Résidences universitaires et logement:
Directeur, Housing and Food Services, 44 Lister Hall (492-4281).

Services aux étudiants:
Doyen des étudiants, Bureau de services aux étudiants, 234 Athabasca Hall (492-2968).

Native Affairs:
Office of Native Student Affairs, 124 Athabasca Hall (492-5677).

Paiement des frais de scolarité:
Bureau du Contrôleur, 3e étage, Edifice de l'Administration (492-3389).

Please Note

(1) Students are responsible for the completeness and accuracy of their registrations. Please read the calendar carefully and, if you are in doubt about the regulations pertaining to your program, consult the appropriate University official. (See item 7 below.)

(2) Please use this Calendar when you register. The University cannot supply more than one copy to each student.

(3) The Calendar sets forth the intention of the University at the time of its publication, with respect to all matters contained therein. The University reserves the right at any time to deviate from what appears in the Calendar, either in order to serve the best interests of the University, or because of circumstances or occurrences beyond the University's reasonable control. The University expressly denies responsibility or liability to anyone who may suffer loss or who may be otherwise adversely affected by such change.

(4) The office hours of the University are from 8:30 a.m. to 12 noon and from 1:00 p.m. to 4:30 p.m. Monday to Friday (except holidays); in May, June, July, and August the office hours are 8:00 a.m. to 12 noon, and from 1 p.m. to 4 p.m. Telephone numbers for information: Main campus - (403) 492-3113, Faculté Saint-Jean (403) 465-8703.

(5) **Professional Requirements:** Students or prospective students intending to enter a profession following graduation should contact the appropriate faculty office in order to ascertain what requirements there are for professional registration above and beyond possession of the prescribed university degree or diploma. In some cases this information is provided in the faculty calendar.

(6) Application deadline: June 1. Other deadlines are set out in §182.1 of this Calendar.

(7) Inquiries should be directed as follows:
(All addresses, except Faculté Saint-Jean, should contain the suffix: University of Alberta, Edmonton, Alberta, T6G 2E2.)

On academic matters:
Dr. J-A Bour, Dean, 8406-91 St., Edmonton T6C 4G9 (465-8705).
L Villeneuve, Officer, Admissions and Student Records, 8406 - 91 Street, Edmonton T6C 4G9 (465-8703).

On admission of Canadian students, registration, records, transcripts, convocation:
Office of the Registrar, Administration Building (492-3113)

On examinations and foreign admissions:
Office of the Registrar, Administration Building (492-5221 and 492-4981 respectively).

On personal problems, psychological assessment, career planning, academic concerns, and university information:
Student Counselling Services, 102 Athabasca Hall (492-5205).

On financial assistance, scholarships, and awards:
Director, Student Awards, 252 Athabasca Hall (492-3495).

On University residence and other housing:
Director, Housing and Food Services, 44 Lister Hall (492-4281).

On student affairs:
Dean of Students, Office of the Dean of Students,
234 Athabasca Hall (492-2968).

On native affairs:
Office of Native Student Affairs, 124 Athabasca Hall (492-5677).

On fee payment:
Office of the Comptroller, 3rd Floor, Administration Building (492-3389).

Note: Dans le présent document, le générique masculin est utilisé sans aucune discrimination et uniquement dans le but d'alléger le texte.

alendrier académique 1991-92

Toutes les dates limites mentionnées au calendrier sont indiquées par le mbole suivant *. TOUT RETARD ENTRAINERA DES PENALITES ACADEMIQUES T FINANCIERES. Les dates limites pour soumettre les demandes d'admission, de admission ou de transfert se trouvent au 14.2 de l'annuaire de l'Université (ou 2.1.1 suivant). Consulter l'annuaire de "Special Sessions" ou la §11 de l'annuaire l'Université pour le calendrier académique de l'intersession.

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JILLET

1 L'Université entre dans sa quatre-vingt-cinquième année.
1 Fête du Canada. L'Université est fermée.
2 *Date limite de réception, au bureau du registraire, des demandes d'inscription aux examens différés du mois d'août.
5 *Date limite, pour les étudiants qui ont été priés de se retirer, d'avertir le Service de conseil aux étudiants qu'ils désirent être réadmis.
12 *Date limite pour la soumission des demandes de bourses d'immatriculation à "Student Awards Office."
*Date limite de réception, au bureau du registraire, des demandes d'inscription aux ré-examens.
31 *Date limite de réception, au bureau du registraire, des demandes d'inscription aux ré-examens spéciaux et aux examens différés spéciaux, approuvées par la Faculté.

OUT

5 Fête du patrimoine. L'Université est fermée.
6-10 Examens différés et ré-examens réguliers.
24 Session d'orientation pour les étudiants adultes.
28-30 Journées d'orientation pour les étudiants étrangers (voir aussi le 31 août).
30 *Date limite de réception, à la faculté, des demandes de remise des diplômes au niveau du baccalauréat à la Collation des grades de l'automne.
31 Les journées d'orientation pour les étudiants étrangers se continuent.

EPTEMBRE

2 Fête du travail. L'Université est fermée.
3-4 Les étudiants inscrits à des cours du premier semestre et à des cours complets de la session d'hiver confirment leur inscription en se procurant leur horaire de cours selon l'horaire publié.
5 Début des cours de la session d'hiver pour les étudiants de la Faculté Saint-Jean.
7 Ré-examens spéciaux, examens différés spéciaux.
11 ***DATE LIMITE POUR LES INSCRIPTIONS AU PREMIER SEMESTRE DE LA SESSION D'HIVER:** dernier jour pour ajouter ou enlever des cours au premier semestre ou des cours complets. Les étudiants qui se retireront après cette date et jusqu'au 15 octobre seront facturés 50% des frais pour chaque cours abandonné. (Voir 16.9.3 et 15.2.6).
12-16 Les inscriptions comme auditeur ou les changements de "credit" à "audit" par les étudiants au niveau du baccalauréat, concernant les cours du premier semestre et les cours complets, seront acceptés seulement pendant cette période. (Voir 12.2.3).
14 Journée d'orientation "tardive" pour les étudiants étrangers.
27 *Date limite pour le paiement, sans amende, des droits d'inscription à la session d'hiver (voir 15.2).

CTOBRE

4 Date limite pour le retrait des cours intensifs en éducation offerts au premier semestre de la session d'hiver à la Faculté Saint-Jean.
*Date limite pour le retrait des cours PAC, niveau 100, offerts à la première moitié du premier semestre de la session d'hiver à "Physical Education and Recreation."
14 Jour d'Action de Grâces. L'Université est fermée.
15 DATE LIMITE DES REMBOURSEMENTS AU PREMIER SEMESTRE DE LA SESSION D'HIVER: Les étudiants qui se retireront après cette date ne recevront aucun remboursement. (Voir 15.2.6).
21 Début des cours PAC, niveau 100, offerts à la deuxième moitié du 1er semestre à "Physical Education & Recreation."
21-25 Semaine de tests mi-semestriels de la session d'hiver. Aucune activité para-universitaire organisée en dehors du campus ne devrait être autorisée pendant cette semaine.
25 Fin des cours intensifs en éducation au premier semestre de la session d'hiver.
28 Début des cours de la Phase II en éducation.

OVEMBRE

11 Jour de l'Armistice. L'Université est fermée.
15 *Date limite pour les retraits des cours au premier semestre de la session d'hiver, pour les étudiants au niveau du baccalauréat (voir 16.9.3 et 15.2.6).
Date limite pour le retrait des cours PAC, niveau 100, offerts à la deuxième moitié du premier semestre de la session d'hiver à "Physical Education & Recreation."
21 Collation des diplômes, Partie I.
23 Collation des diplômes, Partie II.
25 Date limite pour le retrait des cours de la Phase II en éducation.

ECEMBRE

4 *Dernier jour de cours du premier semestre de la session d'hiver.
10-19 Examens de "mi-session" pour les étudiants de la Faculté Saint-Jean. Aucune activité para-universitaire organisée en dehors du campus ne devrait être autorisée pendant cette période. **Les examens de fin de semestre ou finals (s'il y en a) pour tous les cours donnés sur le campus à 17h00 ou plus tard auront lieu normalement pendant le dernier cours.**
13 Fin des cours de la Phase II en éducation.
25-27 Vacances de Noël. L'Université est fermée.

Academic Schedule 1991-92

All deadlines in the academic schedule are marked by the * symbol. FAILURE TO ADHERE TO THESE DEADLINES CAN RESULT IN ACADEMIC AND FINANCIAL PENALTY. Application deadlines for undergraduate admissions, readmissions, and transfers are summarized in §14.2 of the University Calendar (or §182.1.1 below). Consult the Special Sessions Calendar or §11 of the University Calendar for Intersession.

1991

JULY

1 Eighty-fifth University year begins.
1 Canada Day holiday; University buildings closed.
2 *Last day for the Registrar's Office to receive applications for deferred final examinations to be written in August.
5 *Last day for students who have been required to withdraw to notify Student Counselling Services that they are seeking readmission.
12 *Last day for submission of Matriculation Award applications to the Student Awards Office.
*Last day for the Registrar's Office to receive applicatons for reexamintations.
31 *Last day for the Registrar's Office to receive faculty-approved applications for special reexaminations and special deferred examinations.

AUGUST

5 Heritage Day; University buildings closed.
6-10 Regular reexaminations and deferred examinations.
24 Orientation for mature students begins.
28-30 Orientation for international students (see also August 31).
30 *Last day for undergraduate students to apply to their Faculty office for permission to graduate at Fall Convocation.
31 Orientation for international students continues.

SEPTEMBER

2 Labor Day; University buildings closed.
3-4 Registrants in Winter Session first-term and full-session courses confirm registration by picking up class timetables in accordance with the published schedule.
5 Winter Session classes begin for Faculté St-Jean students.
7 Special reexaminations and deferred examinations.
11 ***WINTER SESSION FIRST TERM REGISTRATION DEADLINE:** Last day to add or drop Winter Session first-term and full-session courses. Students withdrawing after this date and up to October 15 will be assessed 50% fees for withdrawn courses. (See §§16.9.3 and 15.2.6).
12-16 Registrations by undergraduate students to audit or to change from "credit" to "audit" in Winter Session first-term and full-session courses will be accepted only during this period. (See §12.2.3).
14 "Late arrival" orientation for international students.
27 *Last day for payment of Winter Session fees without penalty. (See §15.2).

OCTOBER

4 *Last day for withdrawal from education courses offered in the first half of the Winter Session first-term at Faculté Saint-Jean.
*Last day for withdrawal from Physical Education and Recreation PAC 100-level courses offered in the first half of the Winter Session first-term.
14 Thanksgiving Day; University buildings closed.
15 WINTER SESSION FIRST-TERM REFUND DEADLINE: Students withdrawing after this date will be assessed full fees. (See §15.2.6).
21 Classes begin for Physical Education and Recreation PAC 100-level courses offered in the second half of the Winter Session first-term.
21-25 Winter Session Mid-term Test Week. Off-campus University-organized extra-curricular activities will not normally be allowed during this week.
25 Seven-week education block-courses in the first-term end.
28 Phase II Education courses begin.

NOVEMBER

11 Remembrance Day holiday; University buildings closed.
15 *Last day for withdrawal from Winter Session first-term courses by undergraduate students (see §§16.9.3 and 15.2.6).
*Last day for withdrawal from Physical Education & Recreation PAC 100-level courses offered in the second half of the first-term.
21 Fall Convocation, Part I.
23 Fall Convocation, Part II.
25 Last day for withdrawal from Phase II Education courses.

DECEMBER

4 *Last day of Winter Session first-term classes.
10-19 Winter Session mid-session examinations for students in Faculté Saint-Jean. Off-campus University-organized extra-curricular activities will not normally be allowed during this period. **Mid-session or final examinations (if any) for all on-campus courses offered at 1700 hours or later are held during the last regular class period before mid-session examination week.**
13 Phase II Education courses end.
25-27 Christmas holidays; University buildings closed.

1992

JANVIER

1 Fête du Jour de l'An. L'Université est fermée.

3 *Les étudiants inscrits à des cours au deuxième semestre de la session d'hiver seulement confirment leur inscription en se procurant leur horaire. Journée d'orientation pour les étudiants étrangers.

6 Début des cours du deuxième semestre de la session d'hiver.

10 ***DATE LIMITE POUR LES INSCRIPTIONS AU DEUXIEME SEMESTRE DE LA SESSION D'HIVER:** Dernier jour pour ajouter ou enlever des cours au deuxième semestre. Les étudiants qui se retireront après cette date et jusqu'au 31 janvier seront facturés 50% des frais pour chaque cours abandonné. (Voir 16.9.3 et 15.2.6).
*Date limite pour les retraits des cours complets à la session d'hiver. (Voir 16.9.3).

13-15 Les inscriptions comme auditeur ou les changements de "credit" à "audit" par les étudiants au niveau du baccalauréat, aux cours du deuxième semestre seront acceptés seulement pendant cette période.

15 *Date limite pour le paiement sans amende à la session d'hiver du deuxième versement des droits d'inscription, ou des droits d'inscription des étudiants ne suivant des cours qu'au deuxième semestre (voir 15.2).

31 DATE LIMITE DES REMBOURSEMENTS AU DEUXIEME SEMESTRE DE LA SESSION D'HIVER: Les étudiants qui se retireront après cette date ne recevront aucun remboursement. (Voir 15.2.6).
*Date limite pour le retrait des cours PAC, niveau 100, offerts à la 1ère moitié du deuxième semestre de la session d'hiver à "Physical Education and Recreation."

FEVRIER

1 *Date limite pour la soumission, à la faculté, des demandes de remise des diplômes à la Collation des grades du printemps au niveau du baccalauréat.
*Date limite pour la soumission des demandes de bourses au niveau des études supérieures à "Student Awards Office."

5 Date limite pour le retrait des cours intensifs en éducation offerts au deuxième semestre de la session d'hiver, à la Faculté Saint-Jean.

17 Fête légale provinciale. L'Université est fermée.

18-21 Semaine d'examens mi-semestriels. Aucune activité para-universitaire organisée en dehors du campus ne devrait être autorisée pendant cette semaine.

18 Début des cours PAC, niveau 100, offerts à la deuxième moitié du deuxième semestre de la session d'hiver à "Physical Education and Recreation."

21 Fin des cours intensifs en éducation au deuxième semestre de la session d'hiver.

24 Début des cours de la Phase II et de la Phase III en éducation.

24-28 Semaine de lecture au deuxième semestre; les cours sont suspendus pendant toute la semaine sauf pour les étudiants des phases II et III en éducation lesquels suivront l'horaire du congé du printemps de la Commission Scolaire où ils sont affectés.

27-28 Journées d'orientation à l'Université.

MARS

9 Midi à 13h00. Réunion électorale de l'Union des étudiants. Les cours sont suspendus pendant une heure.

20 *Date limite pour les retraits des cours au deuxième semestre de la session d'hiver pour les étudiants au niveau du baccalauréat (voir 16.9.3 et 15.2.6). Date limite pour le retrait des cours PAC, niveau 100, offerts à la deuxième moitié du deuxième semestre de la session d'hiver à "Physical Education & Recreation."

25 Date limite pour le retrait des cours de la Phase II et de la Phase III en éducation.

AVRIL

9 *Dernier jour de cours de la session d'hiver.

14-27 Période des examens finals de la session d'hiver. **Les examens finals (s'il y a lieu) pour tous les cours donnés sur le campus à 17h00 ou plus tard auront lieu normalement pendant le dernier cours.**

16 Fin des cours de la Phase II en éducation.

17 Vendredi Saint. L'Université est fermée.

20 Lundi de Pâques. L'Université est fermée.

24 Fin des cours de la Phase III en éducation.

MAI

9 Anniversaire de la fondation de l'Université.

18 "Victoria Day." L'Université est fermée.

29 *Date limite pour la soumission des demandes de bourses au niveau du baccalauréat à "Students Awards Office."

JUIN

1-5, 8 Collation des diplômes, Parties I à VI.

30 Clôture de la quatre-vingt-cinquième année universitaire.

1992

JANUARY

1 New Year's Day; University buildings closed.

3 *Students registered in Winter Session second-term courses only confirm registration by picking up class timetables.
Orientation for international students.

6 Second term classes begin.

10 **WINTER SESSION SECOND-TERM REGISTRATION DEADLINES:**
*Last day to add or drop Winter Session second-term courses. Students withdrawing after this date and up to January 31 will be assessed 50% fees for withdrawn courses. (See §§16.9.3 and 15.2.6).
*Last day for withdrawal from Winter Session full-session courses (§16.9.3).

13-15 Registrations by undergraduate students to audit or to change from "credit" to "audit" in second-term courses will be accepted only during this period.

15 *Last day for payment without penalty of second installment of Winter Session fees, or of fees assessed for students attending only in second-term (see §15.2).

31 WINTER SESSION SECOND-TERM REFUND DEADLINE: Students withdrawing from courses after this date will be assessed full fees. (See §15.2.6).
Last day for withdrawal from second-term Physical Education and Recreation PAC 100-level courses offered in the first half of the Winter Session, second-term.

FEBRUARY

1 *Last day for undergraduate students to apply to their Faculty office for permission to graduate at Spring Convocation.
*Last day for submission of Graduate Studies Award applications to the Student Awards Office.

5 Last day for withdrawal from education courses offered in the first half of the second-term at Faculté Saint-Jean.

17 Statutory Provincial Holiday; University buildings closed.

18-21 Winter Session mid-term Test Week. Off-campus University-organized extra-curricular activities will not normally be allowed during this week.

18 *Classes begin for Physical Education and Recreation PAC 100-level courses offered in the second half of the Winter Session second-term.

21 Seven-week education block courses in the second-term end.

24 Phase II and Phase III education courses begin.

24-28 Second-term Reading Week; classes withdrawn for a full week except for Phase II and Phase III education students who will take their Spring Break as per School Board where assigned.

27-28 University Orientation Days.

MARCH

9 12 noon to 1 p.m. Students' Union Election Rally. Classes withdrawn for this hour.

20 *Last day for withdrawal from Winter Session second-term courses by undergraduate students. (See §§16.9.3 and 15.2.6).
*Last day to withdraw from second-term Physical Education and Recreation PAC 100-level courses offered in the second half of Winter Session second-term.

25 Last day for withdrawal from Phase II and Phase III Education courses.

APRIL

9 *Last day of Winter Session classes.

14-27 Winter Session final examination period. **Final examinations (if any) for all on-campus courses offered at 1700 hours or later are held during the last regular class period before examination week.**

16 Phase II Education courses end.

17 Good Friday; University buildings closed.

20 Easter Monday; University buildings closed.

24 Phase III Educaiton courses end.

MAY

9 Charter Day.

18 Victoria Day; University buildings closed.

29 *Last day for submission of Undergraduate Award applications to the Student Awards Office.

JUNE

1-5, 8 Spring Convocation, Parts I to VI.

30 Eighty-fifth University year ends.

Faculté Saint-Jean

181 Introduction

181.1 Personnel académique de la Faculté

181.1.1 Personnel

Doyen
J-A Bour, PhD (Littérature française)

Vice-doyen
EV Blackburn, PhD (Chimie)

Professeurs titulaires
EA Aunger, PhD (Science Politique/Economie)
EV Blackburn, PhD (Chimie)
J-A Bour, PhD (Français)
G Cadrin, Doct (Français)
D Desmarais, MSc (Physique/Mathématique)
L Godbout, LPh (Philosophie)
M Kapetanovich, DU (Français)
FJ McMahon, PhD (Education)
G Morcos, DU (Français)

Professeurs agrégés
G Allaire, PhD (Histoire)
T Bilodeau, MA (Philosophie)
H Hébert, MEP (Education physique)
A La France, PhD (Musique)
F Levasseur-Ouimet, PhD (Education)
Y Mahé, PhD (Education)
S Sheridan, PhD (Biologie)
C Tardif, PhD (Education)

Professeurs adjoints
R Boutin, PhD (Litt. & Expression Moderne)
C Couture, PhD (Histoire)
C Denis, MA (Sociologie)
Y d'Entremont, MA (Education)
F Gobeil-Dwyer, MA (Education)
L Mandin, PhD (Education)

Faculty Service Officer
S Landry, BEd

Bibliothécaire en chef (nomination conjointe)
J Henley, BLS

Bibliothécaire/Services techniques
D Bugeaud, MLS

Bibliothécaire/Services au public (par interim)
J Girouard

Administrative Officers
E Belhumeur
M St-Cyr

Responsable des admissions
L Villeneuve

Education permanente
J Johnson

181.1.2 Autres membres du conseil de la faculté

Président de l'Université
P Davenport, PhD

Représentant de la Faculté des Arts
C Potvin, PhD

Représentant de la Faculté d'Education
D Parker, PhD

Représentant de la Faculté des Sciences
M Légaré, PhD

Représentant du Département des langues romanes
V Bosley, PhD

Représentant de l'ACFA
JC Giguère

Représentant de ATA
N Gour

Représentant de l'école Maurice Lavallée
C Roy

Représentant des écoles d'immersion
E Mishio

Représentants (5) de l'AUFSJ
(Association des Universitaires de la FSJ)

Registraire de l'Université
BJ Silzer, MEd

181 Introductory

181.1 Members of the Faculté

181.1.1 Staff

Dean
J-A Bour, PhD (Littérature française)

Associate Dean
EV Blackburn, PhD (Chemistry)

Professors
EA Aunger, PhD (Political Science/Economics)
EV Blackburn, PhD (Chemistry)
J-A Bour, PhD (French)
G Cadrin, DU (French)
D Desmarais, MSc (Physics/Mathematics)
L Godbout, LPh (Philosophy)
M Kapetanovich, DU (French)
FJ McMahon, PhD, (Education)
G Morcos, DU (French)

Associate Professors
G Allaire, PhD (History)
T Bilodeau, MA (Philosophy)
H Hébert, MPE (Physical Education)
A La France, PhD, (Music)
F Levasseur-Ouimet, PhD (Education)
Y Mahé, PhD (Education)
S Sheridan, PhD (Biology)
C Tardif, PhD (Education)

Assistant Professors
R Boutin, PhD (Litt. & Expression Moderne)
C Couture, PhD (History)
C Denis, MA (Sociology)
Y d'Entremont, MA (Education)
F Gobeil-Dwyer, MA (Education)
L Mandin, PhD (Education)

Faculty Service Officer
S Landry, BEd

Head Librarian (Joint appointment)
J Henley, BLS

Librarian/Technical Services
D Bugeaud, MLS

Acting Librarian/Public Services
J Girouard

Administrative Officers
E Belhumeur
M St-Cyr

Admissions Officer
L Villeneuve

Education permanente
J Johnson

181.1.2 Additional Members of the Faculty Council

President of the University
P Davenport, PhD

Representative, Faculty of Arts
C Potvin, PhD

Representative, Faculty of Education
D Parker, PhD

Representative, Faculty of Science
M Légaré, PhD

Representative, Department of Romance Languages
V Bosley, PhD

Representative, ACFA
JC Giguère

Representative, ATA
N Gour

Representative, Maurice Lavallée School
C Roy

Representative, French Immersion Schools
E Mishio

Representatives (5), AUFSJ
(Students' Union at the Faculté)

Registrar of the University
BJ Silzer, MEd

181.2 Renseignements généraux

181.2.1 Note historique et buts

Le Juniorat Saint-Jean a été fondé en 1908, l'année même où a été inaugurée la Faculté des Arts et des Sciences de l'Université de l'Alberta.

Les deux institutions ont le même âge, mais ont évolué de façon très différente. Le Collège est devenu Collège Universitaire Saint-Jean, partie intégrante et secteur bilingue de l'Université de l'Alberta, 62 ans après sa fondation, le 27 novembre 1970. Le statut officiel de Faculté lui fut accordé en septembre 1977 et sa dénomination devint "Faculté Saint-Jean" en mai 1978.

La Faculté Saint-Jean se définit aujourd'hui par son statut universitaire de langue française. Elle dessert les étudiants capables de poursuivre en français des études universitaires. La Faculté se donne pour mission de répondre aux besoins particuliers des francophones de l'Ouest du Canada.

Tout centre universitaire se doit d'enrichir dans la mesure du possible la vie non seulement intellectuelle mais culturelle de sa clientèle. Aussi, la Faculté Saint-Jean se voit-elle la mission particulière de contribuer à l'enrichissement culturel de ses étudiants aussi bien que de l'ensemble de la vie française en Alberta. Par cet engagement (concrétisé dans le développement de Saint-Jean) l'Université espère promouvoir la culture française dans l'Ouest du Canada.

181.2.2 Services

(1) **Bibliothèque:** Le service des bibliothèques de l'Université de l'Alberta met à la disposition des professeurs et des étudiants de la Faculté Saint-Jean, une riche bibliothèque contenant des oeuvres dans les deux langues. C'est une bibliothèque de consultation et de prêts. Tous les étudiants ont également accès aux bibliothèques du campus principal de l'Université de l'Alberta.

(2) **Centre de documentation pédagogique:** Pour les étudiants et professeurs en pédagogie, la Faculté offre également un service de prêts et de consultation par l'entremise du Centre de Documentation pédagogique (matériel en français uniquement).

(3) **Education permanente:** L'Education permanente de la Faculté Saint-Jean répond aux besoins des adultes francophones et francophiles albertains en offrant, sur place et/ou à distance, des cours d'intérêt général, de français langue première, de français langue seconde, d'alphabétisation, et de formation technique et professionnelle. Un service de diagnostic et de formation est disponible sur demande. Sous la direction des conseils d'administration et en collaboration avec les Alberta Vocational Centres, des centres d'éducation permanente régionaux ont été établis pour servir les besoins des francophones dans les régions du Nord-Ouest (tél: Falher 837-2063) de Calgary (tél: Calgary 297-4023), du Nord-Est (tél: St-Paul 645-6214). Pour de plus amples renseignements, prière de contacter l'Education permanente au 468-1582.

(4) **Service d'orientation:** Les étudiants de la Faculté ont accès à un Service d'orientation spécialisé (Students Counselling Services). Le service offre à tous les étudiants une aide personnelle gratuite dans les domaines suivants: aptitudes à l'étude, plan de carrière, problèmes personnels et information sur l'Université.

(5) **Résidence**: La résidence est conçue et organisée comme un service qui complète l'expérience éducative offerte par la Faculté Saint-Jean. Les étudiants qui demandent à être admis en résidence s'engagent à en accepter les buts, c'est-à-dire, à vivre dans un milieu francophone, à étudier sérieusement, et à faire preuve d'esprit communautaire. La résidence est située sur le campus de la Faculté et peut recevoir environ 80 étudiants. Pour de plus amples renseignements, s'adresser au Service des Résidences, 44 Lister Hall (492-4281).

Les étudiants ne désirant pas vivre en résidence peuvent trouver des appartements et des chambres à proximité de la Faculté.

(6) **Transport**: La Faculté Saint-Jean est située au 8406, rue Marie-Anne Gaboury, à environ six kilomètres à l'est du campus principal de l'Université de l'Alberta. Les étudiants peuvent cependant suivre des cours à la fois à la Faculté Saint-Jean et dans d'autres facultés de l'Université grâce à un service de transport entre les cours.

182 Règlements de la Faculté

182.1 Admission

182.1.1 Demande d'admission

La procédure d'admission est indiquée à la §14 de l'annuaire de l'Université.

Aucune décision définitive quant à l'admission ne peut être rendue avant l'examen de tous les certificats et relevés de notes. La Faculté reçoit les étudiants et leur donne des conseiis sur les programmes d'étude, mais toute décision reste **officieuse et provisoire** tant que les documents officiels nécessaires n'ont pas été reçus et évalués.

Dates limites

Demandes d'admission	le 1er juin
Clôture du dossier d'admission	le 1er août
Demandes de réadmission (étudiants des autres facultés)	le 1er août
Clôture du dossier de réadmission (étudiants des autres facultés)	le 1er août
Demandes de réadmission (anciens étudiants)	fin de la période d'inscription

181.2 General Information

181.2.1 Historical Note and Aims

Juniorat Saint-Jean was founded in 1908, the same year as the inauguration of the Faculty of Arts and Sciences of The University of Alberta.

Though of the same age, the two institutions have evolved in very differing fashions. The Collège became Collège Universitaire Saint-Jean, an integral part and a bilingual sector of the University of Alberta, 62 years later on November 27, 1970. Official Faculty status was granted in September 1977, and the name changed to Faculté Saint-Jean in May 1978.

Today, Faculté Saint-Jean is characterized by its French-language university status. It serves students capable of pursuing university studies in French. The Faculté has taken on the mission of serving the particular needs of Francophones in Western Canada.

It is the duty of every university to enrich, as much as possible, not only the intellectual but also the cultural life of its students. Therefore Faculté Saint-Jean finds itself with the special mission of contributing to the cultural enrichment of its students as well as of the whole of French life in Alberta. Through this commitment (which has taken concrete form in the development of Saint-Jean) the University hopes to foster French culture in Western Canada.

181.2.2 Services

(1) **Library Facilities:** The University of Alberta library system makes available to its professors and to its students a library which is well stocked with books in both languages intended for lending or consultation on the premises. All students also have access to the libraries on the main campus of the University of Alberta.

(2) **Centre de documentation pédagogique:** The Faculté also offers to education students and professors the services of the "Centre de documentation pédagogique" for consultation and loan of its French language materials.

(3) **Education permanente:** "L'Education permanente" (Continuing Education) is responsible for teleconference courses and courses of French as a second language. Under the supervision of administrative councils and in cooperation with the Alberta Vocational Centres, Continuing Education Centres have been established to serve the needs of the francophone population in the regions of Peace River (tel: Falher 837-2063) of Calgary (tel: Calgary 297-4023), of the North-East (tel: St. Paul 645-6214). For further information, please contact l'Education permanente (468-1582).

(4) **Counselling:** Faculté Saint-Jean students have access to the University Students Counselling Services which provides assistance in the following areas: study skills, vocational planning, personal problems and university information.

(5) **Residence:** The residence is a service which complements the educational experience offered by Faculté Saint-Jean. Students who ask for admission to the residence commit themselves to the active pursuit of the goals of the residence, namely, to live and study in a French environment. The residence is on the Faculté campus and can accommodate approximately 80 students. More detailed information may be obtained at Housing and Food Services, 44 Lister Hall (492-4281).

Students who are not interested in living in residence can find rooms in private homes or in apartments near the Faculté Saint-Jean campus.

(6) **Mini-bus service**: Faculté Saint-Jean is located at 8406 - 91 St. (about six kilometres east of the main University campus). This does not preclude the possibility of students following courses at Faculté Saint-Jean and in another faculty of the University, since a mini-bus service is provided between the courses.

182 Regulations of the Faculté

182.1 Admission

182.1.1 Application for Admission

Application procedure is explained in §14 of the University Calendar.

No definite and final ruling concerning admission can be given until all certificates and transcripts of standing have been reviewed. The Faculté consults with and advises students regarding programs of study, but all decisions are **unofficial and tentative** until official documents have been received and evaluated.

Deadlines for Application

Admission Application	June 1
Admission Documents	August 1
Readmission Application (internal transfers)	August 1
Readmission Documents (internal transfers)	August 1
Readmission Application (previous students)	end of registration

182.1.2 Conditions d'admission

Pour être admis à la Faculté Saint-Jean, un candidat de l'Alberta doit normalement avoir obtenu un minimum de 70% de moyenne dans cinq matières appropriées de XIIe année, incluant une note minimale de 70% en French 30 ou l'équivalent; **ou**, un minimum de 65% de moyenne dans cinq matières appropriées de XIIe année incluant Langue et Littérature 30, ou Français 30, ou French Language Arts 30, ou l'équivalent.

Le détail des conditions d'admission aux divers programmes universitaires figure à la §13 de l'annuaire de l'Université. Pour de plus amples renseignements, s'adresser au Bureau des admissions, Faculté Saint-Jean.

Programme du Baccalauréat-ès-Arts
- French 30, 31, Langue et Littérature 30, Français 30, ou French Language Arts 30
- English 30
- Une matière du groupe A ou B* (Etudes sociales 30 est conseillé)
- Une matière du groupe C (Sciences; Mathématiques 30 est conseillé)
- Une matière du groupe A (Humanités) ou C (Sciences)

Programme du Baccalauréat en Education
- French 30, 31, Langue et Littérature 30, Français 30, ou French Language Arts 30
- English 30
- Une matière du groupe A (Humanités) ou C (Sciences)
- Une matière du groupe A (Humanités) ou C (Sciences)
- Une autre matière de XIIe année comportant 5 crédits

Programme du Baccalauréat en Education/Baccalauréat-ès-Sciences
- French 30, 31, Langue et Littérature 30, Français 30, ou French Language Arts 30
- Mathématiques 30
- Biologie 30
- Deux matières du Groupe C parmi: Chimie 30, Mathématique 31, et Physique 30.

Programme du Baccalauréat-ès-Sciences
- French 30, 31, Langue et Littérature 30, Français 30, ou French Language Arts 30
- English 30
- Mathématiques 30
- Une matière du groupe C (Sciences)
- Une matière du groupe C (Sciences)

*Voir §182.1.3 pour le détail des groupes

182.1.3 Classification des cours requis pour l'admission

Les matières de XIIe année acceptées par la Faculté se classent dans les trois groupes suivants:

Groupe A (Humanités)
- Etudes sociales 30
- Langue (autre que français ou anglais)

Groupe B (Beaux-Arts)
- Art 30
- Art 31
- Commercial Art 35
- Visual Communications 32A, B, ou C
- Art dramatique 30
- Musique 30
- Musique 31
- Performing Arts 35 A, B, ou C

Groupe C (Sciences)
- Biologie 30
- Chimie 30
- Mathématiques 30
- Mathématiques 31
- Physique 30

182.1.4 Déficience lors de l'admission

Déficience en anglais: Un étudiant non-anglophone ne présentant pas de cours équivalent à English 30 lors de son admission doit remédier à cette déficience. L'étudiant du programme combiné BEd/BSc n'est pas tenu à cette exigence. Les critères et les modalités sont précisés à la §182.1.8(1) et (2).

182.1.5 Adultes ne répondant pas aux conditions d'admission

Les candidats âgés de 24 ans ou plus, qui ne répondent pas aux conditions d'admission officielles, peuvent solliciter la permission de s'inscrire dans un programme à la Faculté Saint-Jean. Ils doivent être résidents de l'Alberta, du Yukon, ou des Territoires du Nord-Ouest depuis au moins douze mois en date du premier jour de cours de la session à laquelle ils demandent d'être admis.

Critères d'admission:

(1) Les candidats doivent avoir réussi un des cours suivants: French 21, French 30, French 31, Langue et Littérature 30, Français 30, French Language Arts 30, ou faire preuve d'un niveau de compétence équivalent dans la langue française.

(2) Les candidats au programme du BA et du BEd doivent avoir réussi, en plus du français, un des cours suivants: Etudes sociales 30, Biologie 30, Chimie 30, Physique 30, Mathématiques 30 ou 31 (ou leurs équivalents).

(3) Les candidats du programme combiné BEd/BSc doivent avoir réussi, en plus du français: Mathématiques 30, Biologie 30, et un des cours suivants: Chimie 30, Physique 30 (ou leurs équivalents).

182.1.2 Admission Requirements

Every applicant for admission from the high schools of Alberta must normally possess: an average of at least 70% on five appropriate Grade XII subjects including a minimum grade of 70% in French 30 or equivalent; **or**, an average of at least 65% on five appropriate Grade XII subjects including Langue et Littérature 30 or Français 30, or French Language Arts 30, or equivalent.

Detailed admission requirements for the various university programs are set out in §13 of the University Calendar. Further information may be obtained from the Office of Admissions, Faculté Saint-Jean.

Bachelor of Arts Program
- French 30, 31, Langue et Littérature 30, Français 30, or French Language Arts 30
- English 30
- Subject from Group A or B* (Social Studies 30 recommended)
- Subject from Group C (Sciences; Mathematics 30 recommended)
- Subject from Group A (Humanities) or C (Sciences)

Bachelor of Education Program
- French 30, 31, Langue et Littérature 30, Français 30, or French Language Arts 30
- English 30
- Subject from Group A (Humanities) or C (Sciences)
- Subject from Group A (Humanities) or C (Sciences)
- Another Grade XII subject carrying a weight of five credits

Bachelor of Education/Bachelor of Science Program
- French 30, 31, Langue et Littérature 30, Français 30, or French Language Arts 30
- Mathematics 30
- Biology 30
- Two Subjects from Group C (Chemistry 30, Mathematics 31, and Physics 30)

Bachelor of Science Program
- French 30, 31, Langue et Littérature 30, Français 30, or French Language Arts 30
- English 30
- Mathematics 30
- Subject from Group C (Sciences)
- Subject from Group C (Sciences)

* See §182.1.3 for the different classifications.

182.1.3 Classification of Matriculation Subjects

Acceptable Grade XII subjects have been placed in three groups, as follows:

Group A (Humanities)
- Social Studies 30
- Language (other than English or French)

Group B (Fine Arts)
- Art 30
- Art 31
- Commercial Art 35
- Visual Communications 32 A, B, or C
- Drama 30
- Music 30
- Music 31
- Performing Arts 35 A, B, or C

Group C (Sciences)
- Biology 30
- Chemistry 30
- Mathematics 30
- Mathematics 31
- Physics 30

182.1.4 Admission Deficiency

Deficiency in English: A non-English speaking student with no equivalence for English 30 upon admission must make up this deficiency. Students from the combined BEd/BSc program are not required to make up this deficiency. See §182.1.8(1) and (2) for details.

182.1.5 Non-Matriculated Applicants

Applicants 24 years and over who lack formal matriculation may seek permission to enroll in a program at Faculté Saint-Jean. They must be domiciled in Alberta, the Yukon or the Northwest Territories for at least 12 months prior to the first day of classes of the session in which admission is sought.

Admission Criteria:

(1) Candidates must have successfully completed one of the following courses: French 21, French 30, French 31, Langue et Littérature 30, Français 30, French Language Arts 30, or demonstrate an equivalent level of competence in the French Language.

(2) In addition to the French language requirement, applicants for the BA and BEd programs must have successfully completed one of the following courses: Social Studies 30, Biology 30, Chemistry 30, Physics 30, Mathematics 30 or 31 (or their equivalents).

(3) In addition to the French language requirement, applicants to the combined BEd/BSc program must have successfully completed Mathematics 30, Biology 30, and one of the following courses: Chemistry 30 or Physics 30.

(4) Les candidats au programme du BSc doivent avoir réussi, en plus du français: Mathématiques 30 (ou l'équivalent); deux cours en science parmi les suivants: Biologie 30, Chimie 30, Physique 30, Mathématiques 31 (ou leurs équivalents).

(5) Les candidats doivent avoir obtenu un minimum de 65% de moyenne dans les matières requises.

(6) Les candidats au programme du BEd et au programme combiné du BEd/BSc devraient entrer en communication avec le Vice-Doyen de la Faculté Saint-Jean (tél: 465-8700) pour une entrevue.

182.1.6 Admission des étudiants d'une autre province

(1) **Niveaux:** Les étudiants d'une autre province canadienne dont le travail accompli correspond aux niveaux indiqués ci-dessous sont susceptibles d'être admis à la Faculté Saint-Jean, à condition qu'ils aient satisfait aux exigences des programmes choisis.

a. **Ontario:** Diplôme de treizième année.

b. **Terre-Neuve:** Réussite de la douzième année ou d'une année d'études à l'Université Memorial.

c. **Québec:** Réussite de la première année du programme de CEGEP et obtention de résultats satisfaisants dans les matières requises.

d. **Autres provinces:** Diplôme de douzième année.

(2) **Equivalences:** La Faculté Saint-Jean se réserve le droit de juger de l'équivalence et de la classification des cours suivis dans une autre province. Pour prendre un exemple hypothétique, un étudiant du Québec qui réussit la première année du programme du CEGEP et qui présente des cours complets (c'est-à-dire, d'une durée de deux semestres), de Français, d'Histoire, de Mathématiques, de Biologie, de Chimie et de Musique serait jugé, pour fins d'admission, comme ayant des cours équivalents à Français 30, Études sociales 30, Mathématiques 30, Biologie 30, Chimie 30, et Musique 30.

182.1.7 Admission des étudiants d'un autre pays

Voir §13.6 de l'annuaire de l'Université. Pour plus de renseignements, s'adresser au Bureau du Registraire.

182.1.8 Admission d'autres institutions post-secondaires ou transfert d'autres facultés

Les candidats demandant une admission ou un transfert en troisième année du Baccalauréat en Education devront réussir le Test de compétence orale et écrite en français. Une note de 5 dans la partie orale ainsi que dans la partie écrite est exigée. Ce test peut être administré à distance. Pour de plus amples renseignements, veuillez vous adresser au Bureau des admissions.

182.1.9 Admission au BEd/AD

Les critères d'admission au BEd/AD sont les suivants:

(1) Etre détenteur d'un premier diplôme universitaire qui comprend une préparation adéquate dans les domaines de spécialisations pertinents au programme de l'éducation élémentaire ou secondaire. Toute déficience déterminée par le Bureau des admissions doit être comblée avant l'inscription aux cours de l'année professionnelle.

Elémentaire et préscolaire:
Les candidats devront avoir dans leur premier diplôme l'équivalent de 36 crédits ainsi répartis: six crédits par catégorie dans trois des catégories suivantes: Humanités, Sciences Sociales, Beaux-Arts, Sciences et 18 crédits choisis librement parmi ces catégories.

Secondaire:
Les candidats devront avoir dans leur premier diplôme l'équivalent de 30 crédits dans une des spécialisations majeures offertes à la Faculté. En plus, les étudiants devront avoir 12 crédits pertinents à leur spécialisation mineure.

(2) Avoir un niveau élevé de compétence en français démontré par la réussite du Test de compétence orale et écrite en français. Une note de 5 dans la partie orale ainsi que dans la partie écrite est exigée. Ce test peut être administré à distance. Pour de plus amples renseignements, veuillez vous adresser au Bureau des admissions.

182.1.10 Admission avec équivalences universitaires

Un étudiant qui veut passer d'une autre université à la Faculté Saint-Jean peut être admis avec équivalences universitaires, aux conditions suivantes:

(1) Que les cours complétés dans l'institution qu'il quitte n'aient pas servi à l'obtention d'un diplôme;

(2) Que ces cours soient jugés acceptables dans le programme auquel s'inscrit l'étudiant;

(3) **Que le nombre maximum de crédits transférés ne dépasse pas 60 crédits pour le BEd; et ne dépasse pas 18 crédits pour le BEd/AD.**

(4) In addition to the French language requirement, applicants to the BSc program should provide credit in Mathematics 30 (or equivalent) and credit in two of the following: Biology 30, Chemistry 30, Physics 30 or Mathematics 31 (or any two corresponding equivalents).

(5) Applicants must possess a minimum average of 65% in the required subjects.

(6) Applicants for the BEd program and for the combined BEd/BSc program should communicate with the Associate Dean of Faculté Saint-Jean (tel: 465-8700) for an interview.

182.1.6 Admission From Another Province

(1) **Standards:** Students from another Canadian province who have successfully completed work at the standards shown below will be considered for admission to Faculté Saint-Jean provided they present subjects equivalent to the requirements of the appropriate programs.

a. **Ontario** - Grade XIII graduation.

b. **Newfoundland** - Grade XII graduation or successful completion of one year at Memorial University.

c. **Quebec** - Successful completion of the first year of the CEGEP academic program with satisfactory performance in appropriate subjects.

d. **Other provinces** - Grade XII graduation.

(2) **Equivalences:** Faculté Saint-Jean has the right to judge the equivalent values and the classification of courses taken in other provinces. For example, a student from Québec who has successfully completed a first year in the CEGEP program and who submits a full course (that is, two semester courses) in French, in History, in Mathematics, in Biology, in Chemistry and in Music would be considered for admission purposes as having French 30, Social Studies 30, Mathematics 30, Biology 30, Chemistry 30, and Music 30.

182.1.7 Admission From Outside Canada

See §13.6 of the University Calendar. For further information, please contact the Office of the Registrar.

182.1.8 Admission from other Post-Secondary Institutions or transfer from other Faculties

Applicants who wish to be admitted in the third year of the Bachelor of Education program will be required to successfully complete a test of competency (oral and written) in French. A grade of 5 must be obtained in each portion of the test. The test may be taken off-campus. For further information, please contact the Office of Admissions at Faculté Saint-Jean.

182.1.9 Admission to the BEd/AD Program

Admission will be on the basis of:

(1) An approved degree which includes adequate preparation in an area of teaching concentration relevant to elementary or secondary education programs. Students seeking admission to the BEd/AD program should be aware that any deficiencies as determined by the Office of Admissions must be lifted before they can register in the courses of the "professional year."

Elementary and Early Childhood:
Candidates seeking admission to the BEd/AD elementary and early childhood routes are required to present the equivalent of 36 units of course weight in the following areas: six units of course weight per category in three of the following categories: Humanities, Social Sciences, Fine Arts, Sciences, and 18 additional units of course weight in any of the categories.

Secondary:
Candidates seeking admission to the BEd/AD secondary route are required to present the equivalent of 30 units of course weight in one of the major specializations offered at the Faculté. As well, candidates must have the equivalent of 12 units of course weight in a second area of specialization designated as a minor.

(2) Competence in the French language. This will be demonstrated by the successful completion of a test of competency (oral and written) in French. A grade of 5 must be obtained in each portion of the test. The test may be taken off-campus. For further information, please contact the Office of Admissions at Faculté Saint-Jean.

182.1.10 Admission with Advanced Standing

Students who wish to transfer to Faculté Saint-Jean from another university may be admitted with advanced standing on the following conditions:

(1) That the courses completed at the former institution have not been applied towards a degree;

(2) That these courses are acceptable in the program to which the student is admitted;

(3) **That no more than 60 units of course weight be granted for the BEd or 18 units of course weight for the BEd/AD.**

182.1.11 Admission au programme de diplôme de perfectionnement en éducation

Les critères d'admission au programme de diplôme sont les suivants:

(1) Etre détenteur d'un diplôme du 1er cycle avec une moyenne de 6,0 au cours des deux dernières années d'étude ou l'équivalent d'un établissement reconnu;

(2) Etre détenteur d'un certificat professionnel d'enseignement;

(3) Obtenir une note de 6 ou plus à un test de compétence linguistique comprenant une évaluation linguistique du français oral et écrit.

Ceux dont la connaissance du français est jugée insuffisante devront prendre des cours de français avant de demander leur admission au programme.

182.1.12 Compétence dans la langue anglaise

(1) **Règlements généraux de l'Université de l'Alberta:** L'anglais est la langue d'enseignement principale dans toutes les facultés sauf à la Faculté Saint-Jean, où la langue d'enseignement principale est le français. Par conséquent, tous les candidats qui demandent l'admission à des facultés autres que la Faculté Saint-Jean doivent posséder une connaissance adéquate de l'anglais oral et écrit pour être admis à l'Université de l'Alberta. Les adultes qui ne répondent pas aux conditions d'admission et les étudiants libres sont tenus aux mêmes exigences que les autres candidats.

Les candidats qui demandent leur admission à la Faculté Saint-Jean ne sont pas tenus de démontrer leur compétence dans la langue anglaise avant d'être admis. Cependant, ils doivent démontrer cette compétence avant de pouvoir obtenir un diplôme de l'Université de l'Alberta. Les étudiants du programme combiné BEd/BSc ne sont pas tenus á cette condition.

Quel que soit leur pays d'origine ou leur statut de citoyenneté, tous les candidats, sauf ceux de la Faculté Saint-Jean, devront démontrer leur compétence dans la langue anglaise avant d'être admis. Ils peuvent la démontrer de différentes façons:

a. Par la réussite de six années d'études en anglais à temps plein au Canada, ou l'équivalent dans un autre pays où l'anglais est la langue principale. Ces études doivent inclure une 12e année de l'Alberta, ou un niveau équivalent, et peuvent être une combinaison d'études secondaires et post-secondaires.

b. Par la réussite de l'équivalent de six années d'études à temps plein dans une école/institution du Canada où la langue d'enseignement est autre que l'anglais, mais où le niveau de la compétence en anglais requis pour obtenir un diplôme est équivalent à celui des écoles/institutions anglaises du Canada.

c. Une note de 80% ou plus en "English" 30 de l'Alberta, à l'examen du Ministère seulement, ou une note de 6 ou 7 au cours d'anglais de niveau avancé du Baccalauréat International, ou une note de 5 dans le cours d'anglais (Language and Composition: Literature and Composition) du programme "Advanced Placement".

d. Etre détenteur d'un premier diplôme d'une université accréditée où l'anglais est la langue d'enseignement dans un pays où l'anglais est la langue principale.

e. Par la réusite du TOEFL (Test of English as a Foreign Language) avec une note de 580 ou la réussite du MELAB (Michigan English Language Assessment Battery) avec une note de 90. La réussite du TOEFL doit inclure une note d'au moins 50 dans chacune des trois composantes.

Note: L'audition des requêtes d'exemption du TOEFL au niveau du baccalauréat est sous l'autorité du Registraire qui agit au nom des facultés. Les exemptions seront basées sur l'évaluation de la compétence en anglais de l'étudiant d'après une pétition écrite et une entrevue personnelle. Veuillez adresser vos demandes et pétitions au Registraire adjoint, Admissions, Bureau du Registraire.

(2) **Règlements de la Faculté Saint-Jean:** Les candidats qui demandent leur admission à la Faculté Saint-Jean ne sont pas tenus de démontrer leur compétence dans la langue anglaise. Toutefois, les candidats qui sont admis à la Faculté Saint-Jean et qui n'ont pas démontré cette compétence (selon les règlements généraux de l'Université notés ci-dessus) devront se soumettre à la condition suivante:

- la réussite d'un des cours ANGL 100, 110, 113, **OU**
- la réussite du TOEFL (Test of English as a Foreign Language) avec une note de 580 et une note d'au moins 50 dans chacune des trois composantes, **OU**
- la réussite du MELAB (Michigan English Language Assessment Battery) avec une note de 90.

Les étudiants du BEd peuvent aussi démontré cette compétence par la réussite de 18 crédits dont la langue d'enseignement est l'anglais et les étudiants du BEd/AD par la réussite de six crédits dont la langue d'enseignement est l'anglais.

Les étudiants du programme combiné BEd/BSc ne sont pas tenus de se soumettre à cette condition.

Il est déconseillé aux étudiants avec une déficience en anglais de s'inscrire à un cours de littérature anglaise avant d'avoir remédié á cette déficience. De plus amples renseignements concernant la compétence dans la langue anglaise peuvent être obtenus du Bureau des admissions á la Faculté Saint-Jean.

182.1.11 Admission to the Diploma Program in Education

Admission will be on the basis of:

(1) An undergraduate degree with an average of 6.0 in the last two years of undergraduate work or an equivalent qualification from a recognized institution.

(2) A Professional Teaching Certificate.

(3) The successful completion with a grade of 6 or more of a French language proficiency examination which will include both oral and written components.

Those wishing to enter into the Diploma Program but whose knowledge of the French language is too weak will be advised to take courses in French prior to applying for admission in the Program.

182.1.12 English Language Proficiency for Admission

(1) **General University Requirements**: English is the primary language of instruction in all faculties except Faculté Saint-Jean, where French is the primary language. Therefore, all applicants to undergraduate faculties other than Faculté Saint-Jean must possess an adequate knowledge of written and spoken English as a prerequisite to admission. For example, non-matriculated applicants and unclassified program students must comply with the requirement along with other applicants.

Applicants to Faculté Saint-Jean need not demonstrate proficiency in English prior to admission being granted. However, they must demonstrate proficiency in English before they may be granted a degree from this institution. Students from the combined BEd/BSc program are not required to demonstrate their proficiency in English.

Regardless of country of origin or citizenship status, all applicants except for Faculté Saint-Jean will be required to demonstrate proficiency in the English language prior to admission. This demonstration may take any one of several forms:

a. Six full years of education in English in Canada or the equivalent in another country where English is the principal language. Such education must include the Alberta Grade 12, or equivalent level, and can be in a combination of secondary and post-secondary training.

b. Successfull completion of the equivalent of six years of full-time instruction in a school/institution in Canada in which the major language of instruction is other than English, but where the level of English proficiency required for graduation is equivalent to that in English language schools/institutions in Canada.

c. A grade of 80% or better on the diploma examination portion (only) of the Alberta English 30 course, or a grade of 6 or 7 on the International Baccalaureate Higher Level English course, or a grade of 5 on the Advanced Placement English (Language Composition: Literature and Composition) course.

d. Graduation from a degree program offered by an accredited university at which English is the primary language of instruction and in a country where English is the principal language.

e. A score of at least 580 on the Test of English as a Foreign Language (TOEFL) or a score of at least 90 on the Michigan English Language Assessment Battery (MELAB). The TOEFL results must include a score of at least 50 on each of the three components.

Note: Authority to hear petitions and to waive the requirement for undergraduate applicants to write the TOEFL resides with the Registrar acting on behalf of the faculties. Exemptions will be based on assessments of the applicant's English language proficiency as evidenced by a written petition and a personal interview. Please direct enquiries and petitions to the Associate Registrar, Admissions, Office of the Registrar.

(2) **Faculté Saint-Jean requirements**: Candidates for admission to Faculté Saint-Jean are not required to demonstrate proficiency in the English language as a prerequisite for admission. However, those candidates who are admitted at Faculté Saint-Jean and who have not demonstrated proficiency in English (as defined by the General University Requirements above) will be required to meet one of the following conditions:

- the satisfactory completion of ANGL 100, or 110, or 113, **OR**
- a score of at least 580 on the Test of English as a Foreign Language (TOEFL) with a score of not less than 50 in each of the three components, **OR**
- a score of at least 90 on the Michigan English Language Assessment Battery (MELAB).

BEd students may also demonstrate proficiency in the English language by the satisfactory completion of 18 units of course weight which have English as the language of instruction and BEd/AD students by the satisfactory completion of six units of course weight.

Students from the combined BEd/BSc program are not required to demonstrate their proficiency in English.

It is also not advisable for students with a deficiency in English to register in an English literature course before having cleared the deficiency in English. Further information on these language requirements is available from the Office of Admissions at Faculté Saint-Jean.

182.2 Inscriptions

182.2.1 Renseignements généraux

Un étudiant inscrit à une autre faculté de l'Université de l'Alberta peut suivre des cours à la Faculté Saint-Jean. Cette permission ne serait pas accordée à ceux qui ne désireraient suivre que FRANC 160 ou 165.

Procédure d'inscription

La procédure normale est indiquée à la §15 de l'annuaire de l'Université.

Changement d'inscription

Les changements d'inscription aux cours peuvent être faits par les étudiants jusqu'à la fin de la période d'inscription (voir le calendrier académique).

182.3 Classification des cours

La classification des cours offerts à la Faculté Saint-Jean est la suivante:

Beaux-Arts

Art Dramatique et Arts de la Scène; Etudes classiques 367, 368; Musique.

Humanités

Anglais; Canadien-français; Etudes classiques (sauf 367, 368); Etudes de la religion; Français; Histoire (fait aussi partie des Sciences sociales mais un cours ne peut être compté que dans une seule des deux catégories); HUME; Philosophie.

Sciences Sociales

Anthropologie; Economie; ETCAN 421; Géographie (sauf 130, 131); Histoire (fait aussi partie des Humanités, mais un cours ne peut être compté que dans une seule des deux catégories); Linguistique; Linguistique romane; PSYCE 105, 223, 233, 241, 339, 498; Science politique; SCSOC; Sociologie.

Sciences

(1) **Avec Laboratoire:** Biologie; Botanique; Chimie; Entomologie; Géographie 130, 131; Géologie; Informatique; PHYSQ 141, 143, 294; PSYCE 208

(2) **Sans Laboratoire:** Mathématiques; PHYSQ 271, 301; PSYCE 104, 275, 281, 372, 496.

Sciences de l'éducation

Administration scolaire; Andragogie; Média en éducation; Curriculum et méthodologie; Enseignement pratique; Evaluation en éducation; Fondements de l'éducation; Psychologie de l'éducation.

Autres

Comptabilité; FA MI 333; EDPHQ 400.

182.4 Exigences académiques

(1) Pendant l'année universitaire un étudiant ne peut s'inscrire à plus de 30 crédits ou l'équivalent, à moins d'obtenir l'autorisation du Doyen. Normalement, cette autorisation ne sera pas accordée à l'étudiant dont la moyenne de ses 30 derniers crédits est inférieure à 7,5 ou s'il est inscrit aux phases II ou III de l'enseignement pratique.

(2) Durant sa première année, un étudiant ne peut suivre des cours "senior" qu'avec la permission du Doyen.

(3) Les étudiants inscrits au BEd de 4 ans ne peuvent pas suivre des cours de formation pédagogique durant la 1ère année du programme.

(4) La note de chaque cours tient compte non seulement de l'examen final, mais aussi de l'ensemble des examens, des devoirs et des travaux faits au cours de l'année.

(5) **Exclusion de l'examen final:** Un étudiant peut se voir refuser la permission de passer l'examen final dans un cours, avec le consentement du Doyen, dans les circonstances suivantes:

a. l'étudiant n'a pas complété une grande partie des travaux écrits qui lui avaient été assignés;

b. l'étudiant s'est absenté fréquemment d'un cours dans lequel la participation est essentielle (cours d'art dramatique, français (langue), enseignement pratique, travaux de laboratoire, etc.);

c. le professeur doit informer les étudiants, au début du cours, de l'existence du règlement (voir b. ci-dessus), et il doit aussi les informer du pourcentage d'absences qui résulterait en l'exclusion de l'examen final.

(6) **Ré-inscription dans les cours:**

a. Les étudiants ne peuvent pas répéter un cours universitaire qu'ils ont déjà réussi ou pour lequel ils ont reçu des crédits, à moins de raisons jugées valables et ratifiées par le doyen de la faculté dans laquelle ils sont inscrits.

b. Les étudiants ne peuvent se ré-inscrire plus d'une fois dans un cours échoué, soit pour crédit ou soit comme auditeur, à moins de raisons jugées valables par le doyen de la faculté dans laquelle ils sont inscrits.

c. Les étudiants ne peuvent se ré-inscrire plus d'une fois, soit pour crédit ou soit comme auditeur, dans un cours où ils ont reçu une note finale de "W",

182.2 Registration

182.2.1 General Information

A student registered at the University of Alberta in another faculty may take courses offered at Faculté Saint-Jean. Permission would not be granted to students wishing to take only FRANC 160 or 165.

Registration Procedure

The normal procedure for registration is that set out in §15 of the University Calendar.

Change of Registration

Changes of registration may be made by students until the end of the registration period (see the Academic Schedule).

182.3 Classification of Courses

The courses offered at Faculté Saint-Jean are classified as follows:

Fine Arts

Art dramatique and Arts de la scène; Etudes classiques 367, 368; Musique.

Humanities

Anglais; Canadien-français; Etudes classiques (except 367, 368); Etudes de la religion; Français; Histoire (can also be considered as Social Sciences but may be counted in only one of the classifications); HUME; Philosophie.

Social Sciences

Anthropologie; Economie; ETCAN 421; Géographie (except 130, 131); Histoire (can also be considered as Humanities but may be counted in only one of the classifications); Linguistique; Linguistique romane; PSYCE 105, 223, 233, 241, 339, 498; Science politique; SCSOC; Sociologie.

Sciences

(1) **With laboratory**: Biologie, Botanique, Chimie, Entomologie, Géographie 130, 131; Géologie; Informatique; PHYSQ 141, 143, 294; PSYCE 208.

(2) **Without laboratory**: Mathématiques; PHYSQ 271, 301; PSYCE 104, 275, 281, 372, 496.

Education

Administration scolaire; Andragogie; Média en éducation; Curriculum et méthodologie; Enseignement pratique; Evaluation en éducation; Fondements de l'éducation; Psychologie de l'éducation.

Other

Comptabilité; FA MI 333; EDPHQ 400.

182.4 Academic Requirements

(1) During the academic year, students may not register for more than 30 units of course weight without approval of the Dean. Normally, this approval will not be granted to students whose average in the last 30 units of course weight is below 7.5 or if they are registered in Phase II or III of the practicum.

(2) Students in first year may take senior courses only with the approval of the Dean.

(3) Students registered in the four year BEd program are not allowed to take Education content courses during the first year of their program.

(4) The final grade assigned in each course shall be determined not only by the final examination, but also by all examinations and assignments completed throughout the year.

(5) **Debarment from final examination:** A student may be refused permission to write the final examination in a course, with the concurrence of the Dean, in the following circumstances:

a. the student has neglected to do a substantial proportion of the written assignments in a course;

b. the student has often been absent from a course in which class participation is essential (courses in Drama, French (language), Education practicum, laboratory work, etc.);

c. the instructor must alert students at the beginning of the course as to the existence of this regulation (item b. above) and as to the percentage of unmotivated absences students will be allowed before normally being disbarred from final examinations.

(6) **Re-registration in Courses:**

a. Students may not repeat any University course passed, or courses for which they have received transfer credit, except for reasons deemed sufficient, and verified in writing, by the dean of the Faculty in which they are enrolled.

b. Students may not re-register for credit or audit more than once in any failed University course, except for reasons deemed sufficient by the dean (or designate) of the Faculty in which they are enrolled.

c. Students may not re-register for credit or audit more than once in any University course in which they have received a final grade of W, except for

à moins de raisons jugées valables par le doyen de la faculté dans laquelle ils sont inscrits.

d. Au cas où un étudiant contreviendrait aux réglements a., b., ou c. ci-haut, le doyen peut retenir les crédits du cours ou indiquer le cours comme cours en surplus du diplôme.

e. Les étudiants peuvent répéter un cours du premier semestre au second semestre, si ce cours est offert au second semetre, en autant qu'ils se soumettent aux réglements a., b., et c. ci-haut.

f. Un étudiant du premier cycle à qui il est demandé, à cause de résultats académiques insatisfaisants, de se retirer, et/ou de répéter une année, et/ou est accepté en probation, conservera les crédits des cours où il aura obtenu une note de 4 ou plus lors de la période où ses résultats ont été évalués comme insatisfaisants.
En dépit de ces crédits, les facultés peuvent exiger une substitution d'autres cours dans les programmes où une charge complète de cours est requise.

Note: Lorsqu'il s'agit d'un cours optionnel dans le programme d'études de l'étudiant, c'est à la faculté qui offre le cours de décider si l'étudiant peut répéter le cours ou non. S'il s'agit d'un cours requis dans le programme de l'étudiant, la décision de répéter ou non le cours revient à la faculté de l'étudiant.

182.5 Tests/Examens

182.5.1 Test obligatoire pour tous les étudiants de la Faculté Saint-Jean

Test de classement en français

Avant le début de chaque année universitaire, un test de classement est administré à tous les nouveaux étudiants inscrits à la Faculté. Ce test permet aux professeurs de français de placer les étudiants par groupes homogènes dans les cours les mieux adaptés à leur niveau. Aucune préparation préalable n'est nécessaire. Le test est d'une durée de 90 minutes environ.

182.5.2 Test obligatoire pour les étudiants ne présentant pas English 30 ou l'équivalent

Un étudiant ne présentant pas English 30 ni de cours équivalent lors de son admission doit, normalement au cours des deux premières années de son programme, acquérir une connaissance équivalente de l'anglais. Lors de sa première inscription à la Faculté, il doit s'inscrire et se présenter au test de classement en anglais qui est donné durant les deux premiers jours de la session. La date, l'heure, et le lieu en seront affichés à la Faculté Saint-Jean. Ce test, le Michigan English Language Assessment Battery (MELAB), permet au professeur de déterminer la compétence de l'étudiant et de mieux l'orienter. Ceux qui obtiendront une note d'au moins 90 seront considérés comme ayant démontré leur compétence dans la langue anglaise et n'auront à s'inscrire qu'au cours d'anglais requis par leur programme (ANGL 100 ou ANGL 110, s'il y a lieu). Ceux qui obtiendront une note inférieure à 90 et supérieure à 55 devront s'inscrire au cours ANGL 113. Les autres devront normalement suivre des cours d'anglais langue seconde avant de s'inscrire et de se présenter de nouveau au test de classement en anglais. Il est dans l'intérêt de l'étudiant de se conformer à cette exigence au cours des deux premières années de son programme.

Note: Cette section ne s'applique pas aux étudiants inscrits au programme combiné du BEd/BSc.

182.5.3 Tests obligatoires pour les étudiants en éducation

Les étudiants en éducation doivent réussir les tests suivants:

(1) **Test d'élocution:** Tout étudiant du BEd, du BEd/AD, et du BEd/BSc devra réussir le test d'élocution en français (CU ME 132) ou en anglais (ED ES 132) à son choix au début de la première année.

(2) **Test d'admission aux stages pédagogiques:** Tout étudiant du BEd, du BEd/AD, et du BEd/BSc devra réussir le test d'admission aux stages pédagogiques. Une note de 6 dans la partie orale ainsi que dans la partie écrite du test d'admission est exigée pour permettre à l'étudiant de poursuivre son programme à la Faculté Saint-Jean. Ce test sera pris avant de s'inscrire à la 3e année du programme pour les étudiants du BEd, au début de la première année du programme pour les étudiants du BEd/AD et avant de s'inscrire à la quatrième année du programme pour les étudiants du BEd/BSc. Le test comporte une évaluation linguistique du français oral et écrit.

(3) **Test de compétence en français**: Les candidats demandant une admission ou un transfert en troisième année du Baccalauréat en Education ou au programme du BED/AD devront réussir le Test de compétence orale et écrite en français. Une note de 5 est exigée dans la partie orale ainsi que dans la partie écrite du test. Le candidat dispose d'une heure et demie pour rédiger un texte et préparer un court enregistrement. Le test peut être administré individuellement et à distance. L'étudiant doit communiquer avec le Bureau des admissions de la Faculté Saint-Jean.

182.6 Crédits par évaluation spéciale

(1) Un étudiant inscrit à la Faculté Saint-Jean, qui aurait fait des études ou aurait eu des expériences équivalentes à un ou à des cours offerts par la Faculté Saint-

reasons deemed sufficient by the dean (or designate) of the Faculty in which they are enrolled.

d. In cases where a student contravenes regulations (1), (2), or (3) above, the dean (or designate) may withhold credit or indicate the course as extra to the degree, on the course registration that contravenes the regulation.

e. Students may repeat a first-term course in the second term if it is offered in the second term, as long as the student complies with regulations (1), (2), and (3) above.

f. An undergraduate student who, because of unsatisfactory academic performance is either required to withdraw, and/or required to repeat a year, and/or put on probation, will retain credit for courses in which grades of 4 or higher have been attained during the period for which the student's performance was evaluated as unsatisfactory.
Notwithstanding this credit, faculties may require substitution of other courses in programs in which full course loads are required.

Note: Where an elective course in the student's program is concerned, it is the Faculty offering the course which makes the decision as to whether or not a student can repeat the course. If it is a required course in the student's program, then it is the student's Faculty which will decide whether or not the student can repeat the course.

182.5 Tests/Exams

182.5.1 Compulsory Test/Exam for All Faculté Saint-Jean Students

French Placement Test

Before the beginning of each academic year, a placement test is administered to all new students registered in the Faculté. This test enables professors of French to place the students in homogenous groups in courses which are best suited to their level. No prior preparation is required. The test takes approximately 90 minutes to complete.

182.5.2 Compulsory Test for Students Admitted Without English 30 or Equivalent

Students admitted without English 30 or equivalent will be required to reach a level of proficiency comparable to English 30, normally during the first two years of their program. Students who first register at the Faculté are required to register and write an English placement test given during the first two days of the academic year. The dates, hours, and room numbers will be posted at Faculté Saint-Jean. This test, the Michigan English Language Assessment Battery (MELAB), enables the professor to evaluate the students' proficiency and to better advise them. Students who obtain a grade of at least 90 will be considered as having demonstrated proficiency in English and will register in ANGL 100 or ANGL 110, as required in their program. Those who obtain a grade below 90 and above 55 will register in ANGL 113. Normally, other students will follow courses of English as a second language before registering again in the English placement test. It is in the best interest of students to complete this requirement in the first two years of their program.

Note: This section does not apply to students registered in the combined BEd/BSc program.

182.5.3 Compulsory Tests/Exams for Students Registered in the Education Program Only

Education students must also complete the following tests:

(1) **Speech Test:** All students registered in the BEd, BEd/AD, and BEd/BSc programs must successfully complete and pass the Speech Test either in French (CU ME 132) or English (ED ES 132) at the beginning of their first year.

(2) **Practicum Admission Test:** All students registered in the BEd, BEd/AD, and BEd/BSc programs must successfully complete the practicum admission test. In order to continue their program at Faculté Saint-Jean, students must obtain a grade of 6 in both oral and written exams. The test is normally taken before registering in the third year for BEd students — at the beginning of the first year for BEd/AD students — and before registering in the fourth year for BEd/BSc students. The test evaluates the student's oral and written French.

(3) **Test of Competency in French**: Applicants who wish to be admitted or to transfer into the third year of the Education program or into the BEd/AD program will be required to successfully complete a test of competency (oral and written) in French. A grade of 5 must be obtained in each portion of the test. Applicants have an hour and a half to write an essay and prepare a brief recording. The test may be taken individually and off-campus. Students should contact the Office of admissions of the Faculté.

182.6 Credit by Special Assessment

(1) Students registered in Faculté Saint-Jean, who have completed courses or gained experience equivalent to a course or courses at Faculté Saint-Jean, may

Jean, peut demander d'obtenir des crédits par évaluation spéciale. L'étudiant doit adresser sa demande sur le formulaire approprié au Doyen qui pourrait alors donner son accord éventuel et déterminer la forme d'évaluation: soit passer l'examen final du cours en question, soit un examen spécial portant sur l'ensemble du contenu du cours en question, soit quelqu'autre forme d'évaluation.

(2) Avant la date prévue pour l'évaluation spéciale, l'étudiant doit payer 113$ de frais pour chaque cours ou demi-cours. Ce montant peut subir des modifications.

(3) Un maximum de 12 crédits peut être obtenu par évaluation spéciale.

(4) La note obtenue par l'étudiant lors de cette évaluation spéciale est sans appel et paraîtra sur son relevé de notes officiel avec la mention "Evaluation spéciale".

(5) Normalement, les cours pré-universitaires et les cours suivants ne peuvent pas être crédités par évaluation spéciale: ANGL 113; FRANC 160, 165, 166, 261, 262, 267, 322; ENPRQ 200, 251, 301/302, 303/304/305, 352/353, 354/355/356, 409, 459.

Si l'évaluation n'est pas terminée dans un délai de trois mois, la demande est automatiquement annulée.

182.7 Conditions de résidence

182.7.1 Conditions de résidence

Tout étudiant inscrit dans un programme de BA ou de BSc qui comporte normalement 120 crédits doit compléter au moins 60 de ces crédits à l'Université de l'Alberta dont 42 à la Faculté Saint-Jean (voir aussi §182.8(5)).

Tout étudiant inscrit au programme de BEd doit normalement compléter au moins 60 de ces crédits à la Faculté Saint-Jean.

Tout étudiant inscrit au programme du BEd/BSc doit normalement compléter au moins 90 crédits à l'Université de l'Alberta (voir aussi 182.8.(5)).

La dernière année du programme doit normalement correspondre à une année universitaire régulière et doit être suivie à l'Université de l'Alberta. Les conseillers des étudiants peuvent éventuellement recommander au Doyen une exemption à ce dernier règlement. Si l'étudiant a déjà réussi 60 crédits à la Faculté avant le début de la dernière année, il peut solliciter, auprès du Doyen, l'autorisation de suivre un ou des cours dans une autre université.

182.7.2 Lettre d'autorisation

Un étudiant peut être autorisé à prendre un (des) cours à une autre université dans le but d'obtenir des crédits pour un programme de la Faculté Saint-Jean. **Avant** de s'inscrire à l'autre université, il doit obtenir l'autorisation du Doyen.

La demande de lettre d'autorisation doit parvenir au bureau du Doyen avant le 1er juillet de chaque année et comprendre le nom de l'université à laquelle il désire s'inscrire ainsi que le numéro, le titre et la description du cours en question tels qu'ils figurent dans le dernier annuaire. Si la demande est approuvée, le bureau du Doyen envoie la lettre d'autorisation à l'université en question et une copie à l'étudiant.

Normalement, aucune lettre d'autorisation n'est accordée si l'étudiant n'est pas dans la catégorie A (voir §182.8). Des lettres d'autorisation ne sont pas accordées pour les 30 derniers crédits d'un programme, à moins de circonstances exceptionnelles.

182.8 Niveau académique et graduation

Les règlements suivants s'appliquent à tous les étudiants de la Faculté Saint-Jean.

(1) **Niveau académique:** A la fin de chaque année d'étude et selon l'index qualitatif (IQf), tout étudiant de la Faculté est classé dans l'une des trois catégories suivantes:

Catégorie A: Rendement satisfaisant (IQf de 4.0 ou plus). L'étudiant peut poursuivre ses études à la Faculté.

Catégorie B: Rendement insatisfaisant (IQf supérieur à 2.0 et inférieur à 4.0). L'étudiant est considéré en probation; il peut poursuivre ses études mais il est averti que s'il n'a pas rencontré les exigences de la probation, il devra abandonner le programme.

Catégorie C: Rendement extrémement insatisfaisant (IQf de 2.0 ou moins). L'étudiant est avisé qu'il devra abandonner le programme. Il ne pourra normalement se réinscrire qu'après un délai d'un an.

Note: L'index qualitatif est calculé de la façon suivante:

$$\text{IQf} = \frac{\text{Nombre de crédits réussis}}{\text{Nombre de crédits tentés}} \times \text{moyenne générale}$$

(2) **Probation:** Les étudiants autorisés à poursuivre leur programme à titre probatoire pour des raisons académiques, ou après avoir été invités à se retirer de l'Université, doivent pouvoir fournir la preuve de leur capacité à améliorer leurs résultats. Ils sont tenus aux exigences suivantes:

a. S'inscrire à temps plein pendant la session d'hiver (septembre - avril) et obtenir 30 crédits avec une moyenne minimale de 5.0, ou 24 crédits avec une moyenne minimale de 5,5.

b. Aucun échec n'est autorisé (1, 2, 3, ou WF).

c. Normalement, les cours d'enseignement pratique au-delà des cours ENPRQ 200 ou 251 ne font pas partie du calcul des 30 crédits.

seek credit by special assessment. Students must submit on the appropriate form, their request to the Dean who will indicate a recommendation and determine the format of the assessment; this may be either the final examination of the course in question, or a special examination on the total course content or some other form of assessment.

(2) A fee of $113 per single-term or full-session course will be assessed and must be paid before the special assessment will be undertaken. The amount of the fee is subject to change.

(3) Credit may be granted for a maximum of 12 units of course weight.

(4) The student's mark resulting from this special assessment cannot be appealed and will be entered on his official record with the note "Special Assessment".

(5) Normally, pre-university courses and the following courses are not subject to credit by special assessment: ANGL 113; FRANC 160, 165, 166, 261, 262, 267, 322; ENPRQ 200, 251, 301/302, 303/304/305, 352/353, 354/355/356, 409, 459.

If the assessment is not complete within three months, the request lapses automatically.

182.7 Residence

182.7.1 Residence

Students registered in a BA or BSc program, which normally consists of 120 units of course weight, must complete a minimum of 60 units of course weight at the University of Alberta, of which at least 42 must be completed at Faculté Saint-Jean. (See also §182.8(5)).

Students registered in the BEd program must normally complete at least 60 units of course weight at Faculté Saint-Jean.

Students registered in the combined BEd/BSc program must normally complete at least 90 units of course weight at the University of Alberta. (See also 182.8.(5)).

Normally the last year of a degree program must be completed during a regular academic year at the University of Alberta. The student counsellors may recommend to the Dean of the Faculté an exemption to this regulation. If the student has already completed 60 units of course weight at the Faculté before the last year of a program, the student may request authorization of the Dean to take one or more courses at another university.

182.7.2 Letter of Permission

A student may be allowed to take one or more courses at another university in order to obtain credits for a program at Faculté Saint-Jean. Before registering at another university, the Dean's approval must be obtained.

The request for a letter of permission must reach the Dean's office by July 1 of every year and must contain the name of the university at which the student wishes to register, the number, title and description of the course(s) as listed in the latest calendar. If the request is granted, the Dean's office will send the letter of permission to the university in question with a copy to the student.

Normally, a letter of permission will not be granted if the student falls outside category A (see §182.8). Letters of permission will not be granted for the last 30 units of course weight of a program barring exceptional circumstances.

182.8 Academic Standing and Graduation

The following regulations shall apply to all students at Faculté Saint-Jean.

(1) **Academic Level:** At the end of each academic year, according to the Quality Index (QI), each student is placed in one of the three categories listed below:

Category A: Satisfactory results (QI of 4.0 or more). Students may continue their studies at Faculté Saint-Jean.

Category B: Unsatisfactory results (QI of less than 4.0 but greater than 2.0). The students are accepted on a probationary basis; they may continue their studies but are warned that if they have not met the requirements of the probation, they must withdraw from the program.

Category C: Extremely unsatisfactory results (QI of less than 2.0). Students are informed that they must withdraw from the program. When students are asked to withdraw, normally at least one year must elapse before readmission will be granted.

Note: The Quality Index, (QI) is defined by the following formula:

$$\text{QI} = \frac{\text{sum of units of course weight passed}}{\text{sum of units of course weight attempted}} \times \text{GPA}$$

(2) **Probation:** Students who are authorized to continue their studies on probation for academic reasons or who are readmitted after being required to withdraw from Faculté Saint-Jean or any other faculty must demonstrate ability to meet promotion standards and would be bound by the following requirements:

a. Register as a full-time student during the Winter Session (September to April) and complete 30 units of course weight with a minimum GPA of 5.0 or 24 units of course weight with a minimum GPA of 5.5.

b. No failing grades (1, 2, 3, or WF) are permitted.

c. Normally, practicum experiences beyond ENPRQ 200 or 251 are not permitted as part of the 30 units of course weight.

d. L'admission probatoire prend fin dès que ces conditions sont remplies. L'incapacité à remplir ces conditions résultera normalement en une exclusion définitive de la Faculté.

e. Les candidats invités à retirer leur inscription et sollicitant leur réadmission doivent faire l'objet d'une recommandation de la part de "Student Counselling Services" ou du Vice-Doyen de la Faculté Saint-Jean.

) **Examens différés**

L'étudiant qui omet de se présenter à un examen final ou désire être autorisé à se présenter à un examen différé pour des raisons sérieuses ou pour cause de maladie peut soumettre une demande au Registraire de l'Université. Cette demande, accompagnée de la documentation pertinente, doit parvenir au bureau du Registraire dans les 48 heures qui suivent la date et l'heure de l'examen en cause. (Pour plus de détails, voir l'annuaire de l'Université, §16.5.6).

) **Réexamen**

a. Dans certaines circonstances exceptionnelles, un étudiant peut être autorisé à refaire un examen final en autant que:

1) La moyenne générale de l'étudiant soit de 5,5 ou plus durant la session en cours.
2) Le pourcentage accordé à l'examen final soit de 40% ou plus.
3) L'étudiant ait obtenu une note de 3 ou moins dans le cours.

b. Si un réexamen est autorisé, les conditions suivantes s'appliqueront:

1) Le réexamen comptera pour le même pourcentage que l'examen final original.
2) La note du réexamen remplacera la note de l'examen original pour déterminer la note finale du cours.

c. Pour les demandes de réexamen, les étudiants doivent suivre la procédure décrite à la §16.5.4 de l'annuaire de l'Université.

5) **Cours obligatoires:** En vue de recevoir le diplôme de la Faculté Saint-Jean, tout étudiant devra avoir réussi l'équivalent de 30 crédits enseignés en français à la Faculté Saint-Jean. Les cours suivants sont obligatoires:

a. FRANC 322

b. Option culture/civilisation: trois crédits parmi CA FR 320, 322, 424, 425, 450, 451, 465, 466; ETCAN 421; HISTE 374, 375, 399; SC PO 421; SOCIE 368.

c. Six crédits de niveau senior autres que FRANC 261, 262, 267, 322.

6) **Mentions d'honneur:** La Faculté Saint-Jean accorde les mentions d'honneur suivantes:

a. les étudiants qui terminent leur année d'étude avec une moyenne de 7,5 dans un minimum de 30 crédits recevront la mention "Première classe";

b. ceux qui obtiennent une moyenne de 7,5 dans les 60 derniers crédits de leur programme auront droit à la mention "Distinction".

Les cours sans notes finales mais donnant droit à des crédits n'entreront pas en ligne de compte. La moyenne sera calculée d'après le nombre de cours notés.

(7) **Demande de remise des diplômes:** Durant sa dernière année d'études, l'étudiant doit faire la demande du grade qu'il postule. Il obtient du Bureau des admissions le formulaire à cette fin, le complète et le retourne au Bureau des admissions au plus tard le 31 août pour la collation des grades de l'automne, ou le 1er février pour la collation des grades du printemps.

182.9 Appels et griefs

La Faculté a établi un Comité des appels par lequel les différends entre les étudiants et un parti de la Faculté Saint-Jean peuvent être résolus. Les étudiants peuvent obtenir les règlements du Comité au Bureau des admissions de la Faculté.

Démarches à suivre avant l'appel

Le Comité des appels n'entreprendra aucune action avant d'avoir l'assurance que l'étudiant a utilisé tous les moyens normaux à sa disposition. Aussi,

(1) s'il s'agit d'un problème avec l'un des professeurs, l'étudiant essayera d'abord de régler son grief avec le professeur concerné;

(2) si le professeur n'accède pas à sa demande, ou si la question n'est pas du ressort de ce professeur, l'étudiant en discutera avec le chef du secteur approprié (COMFRA, COMPAS ou COMPED). L'étudiant du BEd/BSc discutera du problème avec le chef du secteur COMPED, lequel en discutera avec le chef du secteur COMPAS, et les deux tenteront de régler le problème;

(3) si le chef du secteur ne résout pas la question à la satisfaction de l'étudiant, ce dernier pourra s'adresser au Doyen;

(4) si l'étudiant demeure insatisfait du résultat de ses discussions avec les personnes mentionnées ci-dessus, il sera avisé par le Doyen de son droit d'avoir recours au Comité des Appels.

(5) L'étudiant pourra alors, s'il le désire, soumettre son cas au Comité des Appels.

(6) Si la décision du Comité des Appels de la Faculté n'est pas acceptée par l'étudiant, l'étudiant a le droit de faire appel au "GFC Academic Appeals Committee."

d. Upon successful completion of these requirements probation will be lifted. Failure to meet these standards will normally result in a permanent dismissal from the Faculté.

e. All applicants who have been asked to withdraw and who are applying for readmission must be recommended by Student Counselling Services or by the Associate Dean of the Faculté.

(3) **Deferred examinations**

A student who fails to take a final examination or who wishes to write a deferred examination on compassionate or medical grounds may apply to the Registrar. This request, supported by the pertinent documentation must be submitted to the Registrar's Office within 48 hours after the time of the examination for the course affected. (For further information, refer to §16.5.6).

(4) **Reexamination**

a. A student may be permitted a reexamination in certain exceptional circumstances provided that:

1) The student's GPA is 5.5 or greater during the session in progress.
2) The weight of the final examination is 40% or higher.
3) The student received a grade of 3 or less in the course.

b. If a reexamination is approved, the following policies apply:

1) The reexamination will have the same percentage value as the original final examination.
2) The reexamination mark replaces the original examination mark in determining the final grade of the course.

c. Students requesting a reexamination must follow the procedures detailed in §16.5.4 of this Calendar.

(5) **Compulsory Courses:** To obtain a degree from Faculté Saint-Jean, each candidate must have successfully completed at Faculté Saint-Jean, the equivalent of 30 units of course weight in which French is the language of instruction. The following courses are compulsory:

a. FRANC 322

b. One of the following three units-of-course-weight courses in culture/civilization: CA FR 320, 322, 424, 425, 450, 451, 465, 466; ETCAN 421; HISTE 374, 375, 399; SC PO 421; SOCIE 368.

c. Six units of course weight, at the senior level, other than FRANC 261, 262, 267, 322.

(6) **Honors Mention:** Faculté Saint-Jean grants the following honors notations:

a. Students who complete their academic year with a grade point average of 7.5 in a minimum of 30 units of course weight, shall be awarded "first-class" standing.

b. Students who obtain a grade point average of 7.5 in the last 60 units of course weight of their program, will be entitled to the notation "with distinction."

Courses without final marks, which entitle students to credits, will not be taken into account. The grade point average will be calculated on the basis of the number of courses for which a mark is granted.

(7) **Application for Graduation:** During their final year, all students must file an application for graduation. Forms may be obtained from the admissions office and must be returned to the Faculté by August 31 for Fall Convocation or by February 1 for Spring Convocation.

182.9 Appeals and Grievances

The Faculty has established an Appeal Committee through which disagreements between students and staff from Faculté Saint-Jean can be resolved. Students may obtain the rules and regulations of this Committee from the admissions office of the Faculté.

Procedures to Follow Before an Appeal

The Appeal Committee will not start any action until assured that students have already used all normal means at their disposal to resolve the problem. Such as:

(1) In case of a problem with a professor, the student will first try to resolve the problem with the professor concerned.

(2) If the professor does not comply with the student's request, or if the question does not fall within the professor's competence, the student will then refer the problem to the Director of the sector concerned (COMFRA, COMPAS, or COMPED). Students from the combined BEd/BSc program will refer the problem to the Director of COMPED, who will consult the Director of COMPAS, and both will try to resolve the problem.

(3) If the Director does not resolve the question to the student's satisfaction, the latter may then refer to the Dean.

(4) If the student is still unsatisfied with the results of the above mentioned proceedings, the student will be notified by the Dean of the right to appeal to the Appeal Committee.

(5) The student may then submit the case to the Appeal Committee.

(6) If such appeal is not satisfactory the student has the right to appeal to the GFC Academic Appeals Committee.

182.10 Conseillers d'étude

La Faculté assure le service de conseillers d'étude pour aider les étudiants dans la planification de leur programme. Les débutants sont invités à rencontrer leur conseiller avant le début de l'année universitaire. Les étudiants déjà inscrits sont censés rencontrer leur conseiller durant la période d'inscription, à la fin de l'année universitaire. Les étudiants qui rencontrent des problèmes spéciaux consulteront directement le Doyen de la Faculté.

Il incombe à l'étudiant de bien connaître les règlements ainsi que les exigences académiques du diplôme. Toute exception au règlement doit revêtir la signature du Doyen. Une copie de l'autorisation est remise à l'étudiant et une autre est gardée dans son dossier.

183 Programmes d'études

183.1 Renseignements généraux

La Faculté Saint-Jean offre les programmes suivants:
Baccalauréat-ès-Arts
Baccalauréat en Education
Baccalauréat en Education/Baccalauréat-ès-Sciences
Baccalauréat-ès-Sciences
Baccalauréat après un premier diplôme
Diplômes de perfectionnement en Education

Un étudiant qui désire poursuivre des études dans une faculté contingentée (ex.: Art dentaire, Commerce, Droit, Médecine) peut suivre les premières années d'un programme d'Arts ou de Sciences à la Faculté Saint-Jean.

Cet étudiant aurait ainsi la possibilité d'acquérir une meilleure connaissance de la langue et de la culture françaises.

Cet étudiant devrait toutefois consulter l'annuaire ou un conseiller d'études des facultés en question afin de s'assurer que les exigences des deux programmes soient rencontrées.

183.2 Voies: Avancée/Intermédiaire

Les étudiants qui s'inscrivent à la Faculté Saint-Jean sont orientés vers l'une des deux filières suivantes: "Voie: Avancée" ou "Voie: Intermédiaire". Le niveau de compétence en français, mesuré par le Test de classement en français (§182.5.1), détermine l'orientation.

Voie Avancée, pour les étudiants de niveau fort, que le français soit leur langue maternelle ou non;

Voie Intermédiaire, pour les étudiants moins forts en français. Cette voie a pour objectif d'amener les étudiants de cette orientation, à la fin de la deuxième année, à un niveau équivalent à celui atteint par les étudiants de la voie avancée.

183.3 Baccalauréat-ès-Arts

183.3.1 Préambule

La Faculté Saint-Jean offre un baccalauréat-ès-arts de quatre ans qui lui est propre. L'étudiant peut choisir entre trois concentrations: le BA (Etudes canadiennes), le BA (Humanités) et le BA (Sciences sociales). Le programme vise une éducation libérale et met l'accent sur la formation générale de l'étudiant. Il donne également à ce dernier la possibilité de se spécialiser dans une discipline traditionnelle. L'originalité du programme se situe au niveau de son interdisciplinarité: des cours obligatoires désignés par les sigles CANST, HUME et SCSOC, normalement de niveau 300 et 400, amènent l'étudiant à établir la jonction entre les diverses disciplines des sciences sociales ou celles des humanités.

Les deux premières années forment un programme de base commun aux trois concentrations; elles visent une formation générale. Les deux dernières années sont normalement consacrées aux cours de concentration en études canadiennes, en humanités ou en sciences sociales et aux cours de spécialisation dans une discipline traditionnelle.

Le programme tient compte des exigences de la Faculté relatives aux cours de français et prévoit deux voies, la voie intermédiaire pour les étudiants qui commencent avec FRANC 160 et la voie avancée pour ceux qui débutent avec FRANC 165.

Depuis septembre 1988, tous les nouveaux étudiants du BA s'inscrivent dans l'une des trois concentrations du programme. L'ancien BA (Général) de trois ans et le BA (Spécial) de quatre ans sont abolis.

Les étudiants de l'Université de l'Alberta et des collèges albertains, avec lesquels l'Université a des ententes de transfert, inscrits avant septembre 1988 au BA (Général) de trois ans ou au BA (Spécial) de quatre ans, pourront poursuivre le programme alors en vigueur; ils devront compléter leur diplôme avant le 30 avril 1995.

183.3.2 Le programme

Les quatre années du programme se présentent comme suit:

Voie Intermédiaire

Première année

FRANC 160	FRANC 261
FRANC 160	PHILE 121
ANGL 1XX*	ANGL 1XX
Science sociale	Science sociale
Science	Science

182.10 Academic Counselling

The Faculté provides academic counselling to assist students in program planning. All new students are encouraged to have an interview with the academic adviser prior to the beginning of the academic year. Students currently enrolled may consult with the adviser at the time of registration near the end of the academic year. Students with special problems may schedule interviews with the Dean.

It is the student's responsibility to be acquainted with all rules and regulations and to meet the requirements for the degree as outlined. Any exceptions to the requirements must be approved by the Dean in writing with one copy to be placed in the student's file and one to be given to the student.

183 Programs of Study

183.1 General Information

Faculté Saint-Jean offers the following programs:
Bachelor of Arts
Bachelor of Education
Bachelor of Education/Bachelor of Science
Bachelor of Science
Bachelor after degree
Diploma programs in Education

Students who intend to register eventually in a quota faculty (i.e.: Dentistry, Commerce, Law, Medicine) may take the first years of an Arts or Science program at Faculté Saint-Jean.

This allows students to develop their knowledge of the French language and culture.

Students should, however, consult the Calendar or a student adviser from the faculties concerned in order to make sure that the requirements for both programs are met.

183.2 Route: Advanced/Intermediate

Students who enroll at Faculté Saint-Jean follow either one of two routes: "Advanced" or "Intermediate", depending upon their level of competence in the French language. The students' level of competence is determined by the French Placement Test (§182.5.1).

Route: Advanced. For students with a high level of competence in the French language whether or not French is their mother tongue.

Route: Intermediate. For students who have not mastered the basics of the French language. This route's goal is to bring these students, by the end of the second year, to a level of competence equivalent to that attained by students in the "Advanced" program.

183.3 The Degree of Bachelor of Arts

183.3.1 Preamble

Faculté Saint-Jean offers a four year BA program which is unique. A student can choose among three subjects of concentration: the BA (Canadian Studies); the BA (Humanities); or the BA (Social Sciences). The program offers a Liberal Arts education and stresses the general education of students. It also gives students the opportunity to specialize in a traditional discipline. The originality of the program lies in its interdisciplinary nature: compulsory courses labelled CANST, HUME and SCSOC, normally at the 300- and 400-levels lead the students to establish the links between the various disciplines of the Social Sciences and of the Humanities.

The first two years constitute a core program common to the three subjects of concentration; their aim is a general education. The last two years are normally devoted to courses in either one of the three concentrations (Canadian Studies, Humanities or Social Sciences) and to specialization courses in a traditional discipline.

The program takes into account the requirements of Faculté Saint-Jean for French courses and provides two routes: the intermediate route for students starting with FRANC 160 and the advanced route for those who start with FRANC 165.

Effective September, 1988, all new BA students register in one of the subjects of concentration of the program. The three-year BA (General) and the four-year BA (Special) are abolished.

The students at the University of Alberta and at colleges with which the University has signed transfer agreements, and who were registered in a three-year BA (General) or in a four-year BA (Special) before September, 1988 will be able to continue in these programs but must complete their degree by April 30, 1995.

183.3.2 The Program

The four year program appears as such:

Intermediate Route

First Year

FRANC 160	FRANC 261
FRANC 160	PHILE 121
ANGL 1XX*	ANGL 1XX
Social Science	Social Science
Science	Science

uxième année

RANC 262	FRANC 322
aux-arts	Beaux-arts
HILE 140 ou HISTE 120	PHILE 140 ou HISTE 120
RANC 325 ou CA FR 350	Culture et civilisation
FOR 161	Option

oie avancée

remière année

RANC 165	FRANC 166
NGL 1XX*	ANGL 1XX
HILE 121	Option
cience sociale	Science sociale
cience	Science

euxième année

RANC 267	FRANC 322
eaux-arts	Beaux-arts
HILE 140 ou HISTE 120	PHILE 140 ou HISTE 120
RANC 325 ou CA FR 350	Culture et civilisation
IFOR 161	Option

'étudiant satisfait normalement cette exigence en réussissant l'un des cours ivants: ANGL 100, ANGL 110, ANGL 113. Ce dernier cours est réservé exclusive- ent aux étudiants inscrits dans un programme de la Faculté Saint-Jean et ne ésentant pas "English 30" ni l'équivalent.

tudes canadiennes*

roisième année

TCAN ou CANST	ETCAN ou CANST
TCAN ou CANST	ETCAN ou CANST
ouvernement can.	Gouvernement can.
istoire can.	Histoire can.
ittérature can.	Littérature can.

uatrième année

TCAN ou CANST	ETCAN ou CANST
péc. (contenu can.)	Spéc. (contentu can.)
péc. (contenu can.)	Spéc. (contentu can.)
péc. (contenu can.)	Spéc. (contentu can.)
pécialisation	Spécialisation

es six crédits en science sociale de la première année peuvent être utilisés pour atisfaire les exigences de la spécialisation. Les trois crédits de culture et civilisation e la deuxième année peuvent aussi servir à satisfaire l'exigence correspondante de concentration (par exemple HISTE 374 ou 375 ou 399 pour trois crédits d'histoire anadienne).

lumanités

roisième année

IUME 301	HUME 303
ption	HUME 401
eaux-arts	Beaux-arts
pécialisation	Spécialisation
pécialisation	Spécialisation

uatrième année

IUME 402	HUME 402
IUME 420	Spéc. ou Humanités
pécialisation	Spécialisation
pécialisation	Spécialisation
ption	Option

Sciences sociales

roisième année

SCSOC 311	SCSOC 312
SCSOC 321	SCSOC 322
pécialisation	Spécialisation
pécialisation	Spécialisation
pécialisation	Spécialisation

uatrième année

SCSOC 401	SCSOC 421
pécialisation	Spécialisation
péc. ou Science sociale	Spéc. ou Science sociale
péc. ou Science sociale	Spéc. ou Science sociale
ption	Option

183.3.3 Les exigences communes

(1) Le baccalauréat-ès-arts de la Faculté est un programme de quatre ans, soit 120 crédits.

(2) Les exigences relatives aux cours de français sont celles de la Faculté Saint-Jean.

(3) L'étudiant doit réussir six crédits en anglais.

(4) Le cours PHILE 140 ou le cours HISTE 120 est obligatoire.

(5) L'étudiant doit réussir PHILE 121, normalement au cours de la première année de son programme.

(6) L'étudiant doit réussir six crédits en beaux-arts.

(7) L'étudiant doit réussir six crédits en sciences et trois crédits en informatique (INFOR 161).

(8) Les options peuvent être des cours d'arts ou de science. Néanmoins un maximum de 12 crédits peut être suivi dans des domaines autres que les arts et les sciences.

Second Year

FRANC 262	FRANC 322
Fine Arts	Fine Arts
PHILE 140 or HISTE 120	PHILE 140 or HISTE 120
FRANC 325 or CA FR 350	Culture & Civilization
INFOR 161	Option

Advanced Route

First Year

FRANC 165	FRANC 166
ANGL 1XX*	ANGL 1XX
PHILE 121	Option
Social Science	Social Science
Science	Science

Second Year

FRANC 267	FRANC 322
Fine Arts	Fine Arts
PHILE 140 or HISTE 120	PHILE 140 or HISTE 120
FRANC 325 or CA FR 350	Culture & Civilization
INFOR 161	Option

*The student normally meets this requirement by successfully completing one of the following courses ANGL 100, ANGL 110, ANGL 113. ANGL 113 is reserved exclusively for students admitted into a program at Faculté Saint-Jean without English 30 or equivalent.

Canadian Studies*

Third Year

ETCAN or CANST	ETCAN or CANST
ETCAN or CANST	ETCAN or CANST
Can. Government	Can. Government
Can. History	Can. History
Can. Literature	Can. Literature

Fourth Year

ETCAN or CANST	ETCAN or CANST
Spec. (Can. content)	Spec. (Can. content)
Spec. (Can. content)	Spec. (Can. content)
Spec. (Can. content)	Spec. (Can. content)
Specializaiton	Specialization

*The six units of course weight in social sciences of the first year may be included within the specialization. The three units of course weight in culture/civilization of the second year may be used to meet the corresponding requirement of the concentration (ex: HISTE 374 or 375 or 399 may be considered as a Canadian History course).

Humanities

Third Year

HUME 301	HUME 303
Option	HUME 401
Fine Arts	Fine Arts
Specialization	Specialization
Specialization	Specialization

Fourth Year

HUME 402	HUME 402
HUME 420	Spec. or Humanities
Specialization	Specialization
Specialization	Specialization
Option	Option

Social Sciences

Third Year

SCSOC 311	SCSOC 312
SCSOC 321	SCSOC 322
Specialization	Specialization
Specialization	Specialization
Specialization	Specialization

Fourth Year

SCSOC 401	SCSOC 421
Specialization	Specialization
Spec. or Social Science	Spec. or Social Science
Spec. or Social Science	Spec. or Social Science
Option	Option

183.3.3 Common Requirements

(1) The BA at Faculté Saint-Jean is a four-year program, with 120 units of course weight.

(2) The requirements concerning French courses are those of Faculté Saint-Jean.

(3) Students must complete six units of course weight in English.

(4) PHILE 140 or HISTE 120 is compulsory.

(5) Students must complete PHILE 121, normally during the first year of their program.

(6) Students must complete six units of course weight in Fine Arts.

(7) Students must complete six units of course weight in Science and three units of course weight in computing science (INFOR 161).

(8) Options may be Arts or Science courses. However, up to 12 units of course weight may be taken in areas other than arts and science.

(9) Lors de l'inscription à la deuxième année de son programme, chaque étudiant doit déclarer sa concentration et sa spécialisation.

(10) Pour obtenir son diplôme, l'étudiant doit avoir obtenu une note égale ou supérieure à 4 dans 120 crédits. Une moyenne de 5,5 est exigée dans la concentration et dans les 60 derniers crédits du programme.

(11) Par exception, le Doyen peut autoriser un étudiant à passer moins, ou plus, de quatre ans pour remplir les conditions requises pour l'obtention de son diplôme.

On pourra consulter l'annuaire de l'Université (Faculté des Arts, §44, Détail des cours), pour y trouver les renseignements concernant les cours qu'offrent les divers départements et qui pourraient satisfaire les exigences de la concentration et de la spécialisation.

183.3.4 Les exigences de la concentration en Etudes canadiennes

Note: Les cours de ce programme de quatre ans sont choisis sous la direction du conseiller pour les Etudes canadiennes de la Faculté Saint-Jean ou du Canadian Studies Committee.

(1) Pour obtenir le BA (Etudes canadiennes) l'étudiant doit réussir un minimum de 42 crédits de contenu canadien. Ces crédits doivent comprendre au moins 18 crédits identifiés ETCAN ou CANST et six crédits dans chacun des sujets suivants: gouvernement canadien, histoire canadienne, et littérature canadienne (française ou anglaise).

(2) La spécialisation portera sur une discipline traditionnelle, comme par exemple le français, l'histoire ou la science politique, ou par suite d'une entente spéciale, l'étudiant proposera une spécialisation de caractère pluridisciplinaire visant à explorer un thème spécifique. Dans l'un ou l'autre cas, au moins 30 crédits sont requis et 48 crédits au plus sont autorisés, dont 18 doivent être des crédits approuvés d'études canadiennes.

(3) Douze crédits dans les domaines autres que les Arts et Sciences choisis sur la liste des cours approuvés d'Etudes canadiennes peuvent compter pour satisfaire aux exigences de la concentration en études canadiennes mais ne peuvent compter pour satisfaire les exigences de la spécialisation dans une discipline.

183.3.5 Les exigences de la concentration en Humanités

(1) Pour obtenir un BA (Humanités), l'étudiant doit réussir un minimum de 54 crédits en humanités. Ces crédits doivent comprendre 18 crédits identifiés par le sigle HUME: les cours HUME 301, 303, et 402 sont obligatoires. Les cours de niveau 100 ne peuvent pas être comptés pour la concentration.

(2) Les cours obligatoires de français de niveau 200 de la Faculté peuvent être utilisés pour satisfaire les exigences de la concentration, mais non de la spécialisation en Français/Canadien-Français.

(3) Pour sa spécialisation, l'étudiant doit réussir au moins 24 crédits dans une des disciplines traditionnelles suivantes:

Etudes classiques
Etudes de la religion
Français/Canadien-Français
Histoire
Philosophie

Au moins 12 de ces crédits doivent être de niveau 400.

(4) L'étudiant doit réussir le cours ARTSC 200 ou MUSIQ 101/201 et un deuxième six crédits de beaux-arts.

(5) L'étudiant doit réussir six crédits en sciences sociales, normalement au cours de sa première année. HISTE 120 ne peut satisfaire cette exigence.

183.3.6 Les exigences de la concentration en Sciences sociales

(1) Pour obtenir un BA (Sciences sociales) l'étudiant doit compléter un minimum de 54 crédits en sciences sociales. Ces crédits doivent comprendre 18 crédits identifiés par le sigle SCSOC: les cours SCSOC 311, 312, 321, 322 sont obligatoires. Les cours de niveau 100 ne peuvent pas être comptés pour la concentration.

(2) Pour sa spécialisation, l'étudiant doit compléter au moins 24 crédits dans une des disciplines traditionnelles suivantes:

Anthropologie
Economie
Géographie
Histoire
Linguistique romane
Psychologie
Science politique
Sociologie

Au moins 12 de ces crédits doivent être de niveau 400.

183.3.7 Règlement général: BA (général) ou BA (spécial)

Un étudiant inscrit au BA (général) ou BA (spécial) entre septembre 1979 et août 1988, devra inclure dans son programme six crédits de chacune des catégories suivantes: Beaux-Arts, Humanités, Sciences Sociales et Sciences avec laboratoire. Pour la classification des cours voir §182.3.

(9) At the time of registration in the second year of their program, students must indicate their concentration and specialization.

(10) To obtain a degree, students must have achieved a grade equal to/or higher than 4 in 120 units of course weight. An average of 5.5 is required in the concentration and in the final 60 units of course weight credited toward a degree.

(11) Exceptionally, the Dean may authorize a student to spend less than or more than four years to meet the requirements of a degree.

Information regarding courses offered by the various departments, and which may meet the requirements for the concentration or specialization, may be found in the University Calendar. (Faculty of Arts, §44, Details of Courses).

183.3.4 The Requirements of the Concentration in Canadian Studies

Note: The courses of this four-year program are chosen under the supervision of the Canadian Studies Adviser from Faculté Saint-Jean or from the *Canadian Studies Committee.*

(1) To obtain a BA (Canadian Studies) students must complete a minimum of 42 units of course weight with Canadian content. These courses must include at least 18 units of course weight labelled ETCAN or CANST and six units of course weight in each of the following disciplines: Canadian Government, Canadian History, and Canadian Literature (French or English).

(2) The specialization may be in a traditional discipline, such as French, History, or Political Science, or, following special agreement, students may propose a specialization of a multidisciplinary nature on a specific topic. In either case, a minimum of 30 units of course weight is required and a maximum of 48 are authorized, of which 18 must be from approved Canadian Studies courses.

(3) Twelve units of course weight in areas other than Arts and Science, chosen from the approved Canadian Studies list of courses may count towards the Canadian Studies requirements but not in the disciplinary specialization requirements.

183.3.5 The Requirements of the Concentration in Humanities

(1) To obtain a BA (Humanities), students must complete a minimum of 54 units of course weight in Humanities. These courses must include 18 units of course weight labelled HUME; HUME 301, 303, and 402 courses are compulsory. The "100-level" courses may not be counted in the concentration.

(2) Compulsory French "200-level" courses of Faculté Saint-Jean may be used to meet the requirements in the concentration, but not in the specialization in French/French-Canadian.

(3) Within the specialization, a student must complete at least 24 units of course weight in one of the following traditional disciplines:

Classics
Religious Studies
French/French-Canadian
History
Philosophy

At least 12 of these units of course weight must be at the 400-level.

(4) Students must complete ARTSC 200 or MUSIQ 101/201 and another six units of course weight in Fine Arts.

(5) Students must complete six units of course weight in Social Science, normally during their first year. HISTE 120 does not meet this requirement.

183.3.6 The Requirements of the Concentration in Social Sciences

(1) To obtain a BA (Social Sciences), students must complete a minimum of 54 units of course weight in Social Sciences. These courses must include 18 units of course weight labelled SCSOC: the SCSOC 311, 312, 321, 322 courses are compulsory. The 100-level courses may not be counted in the concentration.

(2) Within the specialization, students must complete at least 24 units of course weight in one of the following traditional disciplines:

Anthropology
Economics
Geography
History
Romance Linguistics
Psychology
Political Science
Sociology

At least 12 of these units of course weight must be at the 400-level.

183.3.7 General Regulation: BA (General) or BA (Special)

Students registered in a BA (General) or BA (Special) program between September 1979 and August 1988 will be required to complete six units of course weight from each of the following categories in their program: Fine Arts, Humanities, Social Sciences and Laboratory Science. For the classification of courses, see §182.3.

183.3.8 Diplôme de BA (général): programme SA06

Le diplôme permet à l'étudiant d'obtenir une formation pluridisciplinaire en trois ans.

Le programme est soumis aux règlements suivants:

(1) Tout étudiant qui s'inscrit en vue d'un BA doit choisir sa concentration principale en humanités, sciences sociales ou mathématiques. Pour obtenir un BA, l'étudiant doit avoir complété au moins 48 crédits en Arts.

(2) Tout étudiant doit inclure dans son programme d'études un minimum de 18 crédits et un maximum de 30 dans sa concentration principale dont 12 crédits de niveau senior. Un minimum de 18 crédits et un maximum de 24 dans une concentration secondaire sont requis.

Note: Si l'étudiant a une concentration principale en français, son programme comprendra obligatoirement trois crédits en littérature française (autre que FRANC 325) et trois crédits en littérature ou en civilisation canadienne-française.

(3) Lors de l'inscription à la deuxième année de son programme, chaque étudiant doit déclarer les matières de ses concentrations principale et secondaire.

(4) Aucun étudiant ne peut inclure plus de 42 crédits "junior" dans son programme d'études, sauf par autorisation spéciale du Doyen.

(5) Pour obtenir un BA, l'étudiant doit avoir obtenu une note égale ou supérieure à 4 dans 90 crédits. Une moyenne de 5,5 est exigée dans la concentration principale et dans les 60 derniers crédits, ou l'équivalent, de leur programme.

(6) Dans certains cas exceptionnels, le Doyen peut autoriser un étudiant à passer plus de trois ans à l'obtention de son diplôme ou à remplir plus rapidement les conditions requises en suivant les cours de l'intersession ou en suivant des cours supplémentaires pendant la session d'hiver.

(7) 24 crédits au maximum peuvent être suivis dans une matière autre que la matière principale.

(8) Après avoir satisfait aux exigences de la première année, l'étudiant peut choisir 12 crédits dans des domaines autres que les Arts et les Sciences.

On pourra consulter l'annuaire de l'Université (Faculté des Arts) §44 pour y trouver des renseignements concernant les cours offerts par les divers départements.

183.3.9 Certificat d'équivalence

Les candidats qui détiennent un BA (Général) de l'Université de l'Alberta peuvent obtenir un certificat indiquant qu'ils ont satisfait aux exigences du BA (Spécial) ou du BA (Etudes canadiennes) en prenant 30 crédits supplémentaires, ou plus dans certains cas, pour satisfaire aux exigences du programme de la Faculté Saint-Jean. Cette option n'est pas offerte aux titulaires de grades universitaires délivrés par d'autres universités.

183.3.10 Diplôme de BA (Special): programme SA12

Le programme de BA (spécial) est destiné à procurer aux étudiants une formation variée recouvrant plusieurs domaines d'étude, mais offrant en même temps un plus grand degré de spécialisation dans un domaine déterminé que ne le permet le programme général.

Le BA (spécial) comporte une série de 120 crédits qui sont normalement obtenus sur une période de quatre ans. Deux choix importants sont exigés: une matière principale au choix dans le domaine des Beaux-Arts, Humanités, Sciences sociales ou Mathématiques, et une matière secondaire dans les Arts ou les Sciences.

(1) Un minimum de 30 crédits est exigé dans la matière principale, dont au moins 24 doivent être des cours "senior"; un maximum de 48 est autorisé. Un minimum de 24 crédits est exigé dans la matière secondaire et un maximum de 30 est autorisé.

Note: Si l'étudiant a une concentration principale en français, son programme comprendra obligatoirement six crédits en littérature française (autre que FRANC 325) et six crédits en littérature ou en civilisation canadienne-française.

(2) Tout étudiant doit compléter au moins 66 crédits en Arts.

(3) **Exigences académiques:** Pour obtenir un BA (spécial), un étudiant doit recevoir une note de 4 ou davantage dans 120 crédits. Une moyenne de 5,5 est exigée dans la concentration principale et dans les 60 derniers crédits ou l'équivalent du programme.

183.4 Baccalauréat en Education

183.4.1 Renseignements généraux

Les deux programmes à la Faculté Saint-Jean préparent les étudiants à l'enseignement dans les écoles francophones et dans les programmes d'immersion. Les candidats ayant complété avec succès leurs années d'études obtiendront un Baccalauréat en Education et seront recommandés pour un Brevet d'enseignement temporaire (Interim Professional Certificate).

(1) **Le programme de 4 ans** dans lequel sont normalement admissibles les étudiants qui ont complété la 12e année. Il faut réussir 120 crédits pour compléter le programme.

183.3.8 The Degree of BA (General): Degree Code SA06

The general program of Arts is designed to enable students to obtain a diversified training in more than one branch of study within the limits of a three-year program.

The following regulations govern the program:

(1) Students registering for the BA degree must choose a principal subject of concentration in the humanities, social sciences, or mathematics. To obtain a BA, all students must complete at least 48 units of course weight in Arts.

(2) Students must include in their program a minimum of 18 units of course weight, at least 12 of which must be senior courses, and a maximum of 30 in a principal subject of concentration. A minimum of 18 and a maximum of 24 units of course weight in a second subject of concentration are required.

Note: If the principal subject of concentration is French, students will be required to take three units of course weight in French literature (other than FRANC 325) and three units of course weight in French-Canadian literature or civilization.

(3) Students registering in the second year of their program must declare the subjects of their principal and second concentrations.

(4) No student may include more than 42 junior units of course weight in the program, except by special permission of the Dean.

(5) To obtain a BA, students must present a grade of 4 or better in 90 units of course weight. A grade point average of at least 5.5 must be obtained over all courses in the principal subject of concentration and on the last 60 units of course weight, or the equivalent credited to the degree after the first year.

(6) In exceptional circumstances, the Dean may permit a student to proceed to a degree over a longer period than three years, or to meet the requirements in a shorter time by attending Intersession or taking extra courses during the Winter Session.

(7) No more than 24 units of course weight may be taken for degree credit in a subject other than the subject of concentration.

(8) After completion of first year requirements, students may include 12 units of course weight chosen from outside the Arts and Sciences.

Consult §44 for details regarding selection of courses offered by the various Arts Departments.

183.3.9 Certificate of Equivalence

Applicants holding a University of Alberta BA (General) degree may qualify for a certificate indicating that they have met the requirements of the BA (Special) or BA (Canadian Studies) degree by completing 30 further units of course weight or more if required, to meet the curriculum requirements of Faculté Saint-Jean. This option is not open to degree holders from other universities.

183.3.10 The Degree of BA (Special): Degree Code SA12

The BA (Special) program is designed to enable students to obtain a diversified education in more than one branch of study, but with a greater degree of specialization in a particular field than is available in the General program.

The BA (Special) consists of 120 units of course weight usually taken in four years. Two concentrations are required: a principal subject chosen from the Fine Arts, Humanities, Social Sciences, or Mathematics and a second subject which may be chosen in either Arts or Science.

(1) In the principal subject a minimum of 30 units of course weight is required, at least 24 of which must be senior courses; a maximum of 48 units of course weight is permitted. In the second subject a minimum of 24 units of course weight is required and a maximum of 30 is permitted.

Note: If their principal subject of concentration is French, students will be required to take six units of course weight in French literature (other than FRANC 325) and six units of course weight in French-Canadian literature or civilization.

(2) Students must secure credit in at least 66 units of course weight in Arts.

(3) **Academic performance:** To qualify for a BA (Special), students must present a grade of 4 or better in a minimum of 120 units of course weight. A grade point average of at least 5.5 must be obtained over all courses in the principal subject of concentration and on the last 60 units of course weight or the equivalent credited to the degree.

183.4 The Degree of Bachelor of Education

183.4.1 General Information

The two programs at Faculté Saint-Jean prepare teachers to work in francophone schools and in French immersion programs. Students having successfully completed their studies will obtain a BEd and will be recommended for the Interim Professional Certificate.

(1) **The 4 year program** to students meeting admission requirements normally after completion of their Grade 12. The program consists of 120 units of course weight.

(2) **Le programme de 2 ans** offert aux détenteurs d'un grade universitaire de premier cycle (BA, BSc ou autre) qui ont l'intention de se diriger vers l'enseignement. Il faut réussir 60 crédits pour compléter le programme.

Note: Brevet d'enseignement. On pourra toutefois recommander au brevet d'enseignement temporaire l'étudiant au BEd/AD qui aura complété 42 crédits en éducation, selon les exigences du ministère de l'Education de l'Alberta. Les étudiants intéressés doivent consulter le Responsable des admissions et de la gestion des dossiers.

Philosophie de l'éducation

La formation des enseignants à la Faculté Saint-Jean est basée sur le principe suivant lequel l'étudiant est l'agent principal de sa formation. L'étudiant est ainsi appelé à établir un équilibre entre la liberté individuelle, qui lui confère sa dignité et ses droits, et la responsabilité sociale, morale et civique. L'étudiant se doit de se prendre en main et d'assurer la réflexion, les expériences et les démarches lui permettant d'atteindre un niveau de maturité intellectuelle, affective, esthétique, morale et sociale exigé de celui qui veut assumer le rôle de guide et de modèle pour de jeunes élèves. En outre, la Faculté Saint-Jean tient à préparer des futurs enseignants capables de travailler efficacement **en français** soit dans un milieu d'immersion, soit dans un milieu francophone.

Objectifs professionnels

En plus de vouloir assurer la culture générale du futur enseignant, ainsi que sa capacité de promouvoir la langue et la culture canadiennes-françaises, la Faculté Saint-Jean dispense un ensemble de cours professionnels dont les buts sont:

(1) de permettre au futur enseignant d'acquérir des connaissances concernant l'apprenant, son développement humain et social, son apprentissage et son milieu. Le futur enseignant doit également se familiariser avec les composantes de l'acte pédagogique, avec le rôle et les responsabilités de l'enseignant en général, et, en dernier lieu, bien comprendre le domaine de l'éducation française en milieu français et en milieu d'immersion.

(2) de permettre au futur enseignant de développer des habiletés tant langagières que professionnelles;

(3) de permettre au futur enseignant de développer des attitudes lui permettant d'acquérir des connaissances nécessaires à la profession et de développer des habiletés requises tout en assurant son propre développement professionnel et humain de manière à bien se préparer au rôle d'enseignant.

Enseignement pratique

L'enseignement pratique comporte normalement trois phases obligatoires. La phase I se situe habituellement dans la deuxième année du programme pour l'élémentaire et en troisième année pour le secondaire. Les phases II et III incluent les treize (13) semaines d'expériences vécues dans les écoles et se situent dans la quatrième année, dite année professionnelle.

Normalement, les trois phases obligatoires doivent être complétées à la Faculté Saint-Jean. L'étudiant inscrit aux phases II et III à la Faculté Saint-Jean doit être prêt à accepter un placement à l'extérieur de la ville.

Programmes

La Faculté offre les spécialisations suivantes:

Elémentaire

Spécialisations
Généraliste
Pré-scolaire

Secondaire

(une des spécialisations doit être le français)

Spécialisations majeures
Etudes sociales
Français
Mathématiques
Sciences générales

Spécialisations mineures
Art dramatique
Education physique
Etudes sociales
Français
Mathématiques
Musique
Sciences générales
Sciences physiques

Au niveau du programme de 4 ans, la Faculté offre deux orientations au choix de l'étudiant:

(1) l'enseignement en milieu d'immersion française

(2) l'enseignement en milieu francophone minoritaire.

(2) **The 2 year program** to holders of approved undergraduate degrees (BA, BSc or other). The program consists of 60 units of course weight.

Note: Teaching Certificate. BEd/AD students who have completed 42 units of course weight in Education may be recommended for an Interim Teaching Certificate according to the requirements of the Department of Education of Alberta. Interested students should consult the admissions officer.

Philosophy of Education

The education program at Faculté Saint-Jean is based on the principle that students are the primary agents of their own learning. Thus, they are expected to find a balance between their personal freedom, self-esteem and individual rights, and their social and moral responsibilities. Students must assume the responsibility for personal growth and professional development by ensuring the reflection, inquiry and experiences which will allow them to attain the intellectual, emotional, aesthetic, moral, and social maturity necessary to guide young students and to act as their role model. As well Faculté Saint-Jean undertakes to prepare future teachers to work effectively **in french** in immersion or in francophone settings.

Professional Objectives

In addition to providing future teachers with a general education and with the capacity to promote the French-Canadian language and culture, Faculté Saint-Jean offers a variety of professional courses, with the following objectives:

(1) to enable future teachers to gain knowledge of the personal and social development of young students, the way they learn and the community in which they live. Future teachers must become familiar with all aspects of the teaching process and with the role and responsibilities of the teacher in general, and must gain as well a thorough understanding of the field of French education, both for native speakers and for students in an immersion setting;

(2) to enable future teachers to develop appropriate linguistic and professional skills;

(3) to enable future teachers to develop the appropriate attitudes for acquiring professional knowledge and skills, while ensuring that both their professional and personal development are consistent with their future roles as teachers.

Education Practicum

The practicum normally comprises three compulsory phases which include 13 weeks of field experiences. Phase I is usually taken during the second year in elementary education and during the third year in secondary education. Phases II and III, which include the 13 weeks of field experience, are usually taken in the fourth year, the "professional year".

Normally the three compulsory phases must be completed at Faculté Saint-Jean. Students registered in Phases II and III may be required to complete their practicum outside of Edmonton.

Programs

Faculté Saint-Jean offers the following teaching specializations:

Elementary

Specializations
Generalist
Early Childhood

Secondary

(either the major or minor specialization must be French)

Major Specializations
French
General Sciences
Mathematics
Social Studies

Minor Specializations
Drama
French
General Sciences
Mathematics
Music
Physical Education
Physical Sciences
Social Studies

Faculté Saint-Jean offers two orientations in the 4-year program:

(1) in French Immersion Education

(2) in Francophone Education in minority settings.

BEd (élémentaire)

Programme de 4 ans

Enseignement en milieu d'immersion française

Groupe I — Cours de formation pédagogique (51 crédits)

PS ED 267 et 495	6 crédits
FO ED 201	3 crédits
CU ME : 205, 307, 310, 316, 405	15 crédits
ADMSC 401	3 crédits
option en pédagogie	3 crédits
cours en informatique (voir note §183.4.2(7))	3 crédits
6 ENPRQ (Phases I, II, III)	18 crédits

Groupe II — Cours de formation générale (51 crédits)

Voie: Avancée

Options dirigées

33 crédits ainsi répartis: 6 crédits par catégorie dans trois des catégories suivantes: Humanités, Sciences sociales, Sciences, Beaux-Arts, et 15 crédits choisis librement parmi ces catétories

Cours obligatoires (18 crédits)

FRANC 165/166
FRANC 267/322
LINGQ 200
3 crédits en culture/civilisation (voir §182.8(5)).

Voie: Intermédiaire

Options dirigées

30 crédits ainsi répartis: 6 crédits par catégorie dans trois des catégories suivantes: Humanités, Sciences sociales, Sciences, Beaux-Arts et 12 crédits choisis librement parmi ces catégories.

Cours obligatoires (21 crédits)

FRANC 160
FRANC 261/262
FRANC 322
LINGQ 200
1 demi-cours en culture/civilisation (voir §182.8(5)).

Groupe III — Options (18 crédits)

Grand Total: 120 crédits

BEd (élémentaire)

Programme de 4 ans

Enseignement en milieu francophone minoritaire

Groupe I — Cours de formation pédagogique (51 crédits)

PS ED 267 et 495 ou 477	6 crédits
FO ED 401	3 crédits
CU ME 205, 307, 316, 357, 405	15 crédits
ADMSC 401	3 crédits
1 option en pédagogie	3 crédits
1 cours en informatique (voir note §183.4.2(7))	3 crédits
6 ENPRQ (Phases I, II, III)	18 crédits

Groupe II — Cours de formation générale (51 crédits)

6 crédits dans chacune des catégories suivantes: Sciences et Beaux-Arts

21 crédits suivants: HISTE 374 ou 375, HISTE 399, SC PO 320 et 421, SOCIE 100 et 368.

LINGQ 200
FRANC 322

12 crédits de français et/ou de canadien-français au niveau 300 ou 400.

Groupe III — Options (18 crédits)

A noter que les cours de français pré-requis au FRANC 322 font partie des options.

Grand total: 120 crédits

BEd (élémentaire/préscolaire)

Programme de 4 ans

Enseignement en milieu d'immersion française

Groupe I — Cours de formation pédagogique (57 crédits)

PS ED 267 et 495	6 crédits
FO ED 201	3 crédits
CU ME 203, 303, 307, 310, 311, ou 451, 316, 343, 403	24 crédits
1 cours en informatique (voir note §183.4.2.(7))	3 crédits
ADMSC 401	3 crédits
6 ENPRQ (Phases I, II, III)	18 crédits

Groupe II — Cours connexes au préscolaire (12 crédits)

12 crédits parmi les suivants: ADRAM 143, 149, 321; BIOLE 110 ou ENTIE 120; CU ME 410 ou LIS 412; CU ME 301, 326, 339, 439; FA MI 333; FAM 343, 357, 443; MUSIQ 100, 101, 103, 201, 215; PAC 425; PESS 180, 292, 492; SOCIE 371 ou FAM 350.

Groupe III — Cours de formation générale (45 crédits)

Voie: Avancée

Cours obligatoires (18 crédits)

FRANC 165/166
FRANC 267/322
LINGQ 200
3 crédits en culture/civilisation (voir §182.8(5)).

Options dirigées

27 crédits: 3 crédits sont requis dans chacune des quatre catégories suivantes: Beaux-Arts, Humanités, Sciences et Sciences sociales. Les 15 autres crédits sont choisis librement parmi ces catégories. Les cours de formation pédagogique sont exclus.

Voie: Intermédiaire

Cours obligatoires (21 crédits)

FRANC 160
FRANC 261/262
FRANC 322
LINGQ 200
3 crédits en culture/civilisation (voir §182.8(5)).

Options dirigées

24 crédits: 3 crédits sont requis dans chacune des quatre catégories suivantes: Beaux-Arts, Humanités, Sciences, et Sciences sociales. Les 12 autres crédits sont choisis librement parmi ces catégories. Les cours de formation pédagogique sont exclus.

Groupe IV — Options (6 crédits)

Grand Total: 120 crédits

Note: En plus du diplôme du BEd et de la recommandation pour le Brevet d'enseignement temporaire "Interim Teaching Certificate", les finissants de ce programme sont également recommandés pour le diplôme de l'enseignement au préscolaire ECS (Early Childhood Services).

BEd (élémentaire: préscolaire)

Programme de 4 ans

Enseignement en milieu francophone minoritaire

Groupe I — Cours de formation pédagogique (54 crédits)

PS ED 267 et 495 ou 477	6 crédits
FO ED 401	3 crédits
CU ME 203, 303, 307, 310, 316, 357, 403	21 crédits
ADMSC 401	3 crédits
1 cours en informatique (voir §183.4.2(7))	3 crédits
6 ENPRQ (Phases I, II, III)	18 crédits

Groupe II — Cours de formation générale (51 crédits)

6 crédits dans chacune des catégories suivantes: Sciences et Beaux-Arts
21 crédits suivants: FA MI 333, HISTE 399, SC PO 320 et 421, SOCIE 100 et 368.

LINGQ 200
FRANC 322

12 crédits de français et/ou de canadien-français au niveau 300 ou 400.

Groupe III — Options (15 crédits)

A noter que les cours de français pré-requis au FRANC 322 font partie des options.

Grand Total: 120 crédits

Note: En plus du diplôme de BEd et de la recommandation pour le Brevet d'enseignement temporaire "Interim Teaching Certificate," les finissants de ce programme sont également recommandés pour le diplôme de l'enseignement au préscolaire ECS (Early Childhood Services).

BEd (secondaire)

Programme de 4 ans

Enseignement en milieu d'immersion française

Tout étudiant inscrit à la Faculté Saint-Jean au programme du BEd (Secondaire) doit faire soit sa spécialisation majeure, soit sa spécialisation mineure, en français.

Groupe I — Cours de formation pédagogique (48 crédits)

PS ED 266 et 495	6 crédits
FO ED 201, 452	6 crédits
4 CU ME: 350, 358, 359 1 dans la mineure	12 crédits
ADMSC 401	3 crédits
1 cours en informatique (voir note §183.4.2(7))	3 crédits
6 ENPRQ (Phases I, II, III)	18 crédits

Groupe II — Cours de formation générale (54 crédits)

Voie: Avancée

Spécialisation majeure: français (36 crédits)

FRANC 165/166
FRANC 267/325
FRANC 322/Littérature
Littérature/Littérature
Libre/Libre
LIN R 320 ou 422 et LINGQ 200

Spécialisation mineure: français (18 crédits)

FRANC 165/166
FRANC 267/322
LINGQ 200/FRANC 325

Voie: Intermédiaire

Spécialisation majeure: français (36 crédits)

FRANC 261/262
FRANC 322/325
Littérature/Littérature/Littérature
Libre/Libre/Libre
LIN R 320 ou 422 et LINGQ 200

Spécialisation mineure: français (18 crédits)

FRANC 261/262
FRANC 322/325
LINGQ 200/Libre

Groupe III — Options

18 crédits dont 3 crédits en culture/civilisation (voir §182.8(5)).

Grand Total: 120 Crédits

BEd (secondaire)

Programme de 4 ans

Enseignement en milieu d'immersion française

Autres spécialisations: Pour les exigences des autres spécialisations, consultez le bureau des admissions et de la gestion des dossiers.

BEd (secondaire)

Programme de 4 ans

Enseignement en milieu francophone minoritaire

Groupe I — Cours de formation pédagogique (48 crédits)

PS ED 266 et 495 ou 477	6 crédits
FO ED 401	3 crédits
4 CU ME : 357, 358, 359 1 dans la mineure	12 crédits
ADMSC 401	3 crédits
1 option en pédagogie	3 crédits
1 cours en informatique (voir note §183.4.2(7))	3 crédits
6 ENPRQ (Phases I, II, III)	18 crédits

Groupe II — Cours de formation générale (60 crédits)

Spécialisation majeure: français (42 crédits)

LINGQ 200
FRANC 322, 325
6 crédits en littérature
6 crédits en CA FR ou FRANC au niveau 300 ou 400
HISTE 374 ou 375 et 399
SC PO 320, 421
SOCIE 100, 368

Spécialisation mineure: français (18 crédits)

LINGQ 200
FRANC 322, 325
CA FR ou FRANC au niveau 300 ou 400
HISTE 399
SC PO 421

Groupe III — Options (12 crédits)

A noter que les cours de français pré-requis au FRANC 322 font partie des options.

Grand Total: 120 crédits

BEd (secondaire)

Programme de 4 ans

Enseignement en milieu francophone minoritaire

Autres spécialisations: pour les exigences des autres spécialisations, consultez le bureau des admissions et de la gestion des dossiers.

BEd/AD (élémentaire)

Programme de 2 ans

Education élémentaire

Groupe I — Cours de formation pédagogique (48 crédits)

PS ED 367 et 495	6 crédits
1 FO ED	3 crédits
CU ME 205, 307, 310, 316, 405	15 crédits
ADMSC 401	3 crédits
1 cours en informatique (voir note §183.4.2(7))	3 crédits
6 ENPRQ (Phases I, II, III)	18 crédits

Groupe II — Cours obligatoires de la Faculté* (6 crédits)

FRANC 322

3 crédits en culture/civilisation (voir §182.8(5)).

*L'étudiant qui a complété ces cours dans un premier diplôme les remplacera par des options libres.

Groupe III — Options (6 crédits)

Note: Les étudiants du BEd/AD devraient être conscients que toue déficience exigerait des cours en sus des cours mentionnés.

Grand Total: 60 crédits

BEd/AD (élémentaire)

Programme de 2 ans

Education préscolaire

Groupe I — Cours de formation pédagogique (51 crédits)

PS ED 367, 495	6 crédits
1 FO ED	3 crédits
CU ME 203, 303, 307, 310, 316, 403	18 crédits
1 cours en informatique (voir note §183.4.2(7))	3 crédits
ADMSC 401	3 crédits
6 ENPRQ (Phases I, II, III)	18 crédits

Groupe II — Cours obligatoires de la Faculté* (6 crédits)

FRANC 322

3 crédits en culture/civilisation (voir §1282.8(5)).

*L'étudiant qui a complété ces cours dans un premier diplôme les remplacera par des options libres.

Groupe III — Option (3 crédits)

Note: Les étudiants du BEd/AD devraient être conscients que toute déficience exigerait des cours en sus des cours mentionnés.

En plus du diplôme du BEd et de la recommandation pour le Brevet d'enseignement temporaire "Interim Teaching Certificate", les finissants de ce programme sont également recommandés pour le diplôme de l'enseignement au préscolaire ECS (Early Childhood Services).

Grand Total: 60 crédits

BEd/AD (secondaire)

Programme de 2 ans

Groupe I — Cours de formation pédagogique (45 crédits)

PS ED 366, 495	6 crédits
1 FO ED	3 crédits
4 CU ME: CU ME 350	12 crédits
2 dans la majeure	
1 dans la mineure	
ADMSC 401	3 crédits
1 cours en informatique (voir note §183.4.2(7))	3 crédits
6 ENPRQ (Phases I,II, III)	18 crédits

Goupe II — Cours obligatoires de la Faculté* (9 crédits)

FRANC 322/325

3 crédits en culture/civilisation (voir 182.8(5)).

*L'étudiant qui a complété ces cours dans un premier diplôme les remplacera par des options libres.

Groupe III — Options (6 crédits)

Note: Les étudiants du BEd/AD doivent, au moment de leur inscription, indiquer leur spécialisation d'après leurs études effectuées pour le premier diplôme (BA, BSc, ou autre).

Ils devraient, en plus, être conscients que toute déficience exigerait des cours en sus des cours mentionnés.

Grand Total: 60 crédits

183.4.2 Notes académiques

(1) Pour avoir le titre de BEd, tout étudiant doit obtenir une moyenne d'au moins 5,0 dans tous les cours des trois dernières années de son programme d'études.

(2) Afin d'être recommandé pour un Brevet d'enseignement temporaire, tout étudiant doit obtenir une moyenne d'au moins 5,0 dans tous les cours professionnels obligatoires.

(3) Tout étudiant, en possession de crédits post-secondaires, s'inscrivant au programme du BEd à l'Université de l'Alberta, doit obtenir une moyenne d'au moins 5,0 dans tous les cours suivis à l'Université de l'Alberta et crédités en vue de son diplôme.

(4) a. Un étudiant qui échoue aux cours de la Phase II ou de la Phase III ne peut s'inscrire à aucun autre des cours d'enseignement pratique et doit se retirer du programme de pédagogie de la Faculté Saint-Jean.
b. Un étudiant qui abandonne des cours de la Phase II ou la Phase III de l'enseignement pratique doit avoir la permission du coordonnateur du programme de pédagogie avant de se ré-inscrire dans ces cours.
c. Un étudiant en période probatoire pour des raisons académiques ne peut pas s'inscrire aux cours de la Phase II ou de la Phase III.

(5) Aucun étudiant ne pourra refaire plus d'une année pendant son programme d'études.

(6) Le maximum de crédits supplémentaires en éducation qui peuvent dépasser le nombre total de crédits exigés pour tout programme de BEd est de 30, incluant les reprises.

(7) Les étudiants du BEd et du BEd/AD doivent compléter, avant la fin de leur programme, un cours de 3 crédits en informatique ou l'équivalent, de préférence CU ME 347, ou CMPUT 161, EDACT 274, INFOR 161.

183.5 Programme du diplôme de perfectionnement en éducation

183.5.1 Renseignements généraux

La Faculté Saint-Jean offre deux diplômes de perfectionnement pour les enseignants:

(1) en milieu francophone minoritaire et

(2) en milieu d'immersion française.

Les programmes sont conçus pour permettre aux enseignants de parfaire leurs connaissances et leurs compétences dans certains domaines reliés à l'enseignement en langue française.

183.5.2 Les exigences du programme

Le programme comporte 24 crédits de niveau senior et de deuxième cycle, répartis comme suit: 15 crédits obligatoires et neuf crédits optionnels. Les cours obligatoires permettent d'acquérir la connaissance théorique et linguistique générale de chacun des domaines de concentration (enseignement en situation d'immersion française et enseignement dans les milieux francophones minoritaires), tandis que les cours optionnels permettent une spécialisation dans des domaines répondant aux intérêts et aux besoins professionnels des étudiants.

L'étudiant peut s'inscrire à temps plein ou à temps partiel, cependant le diplôme doit être complété en quatre années universitaires à partir de l'inscription initiale.

Pour de plus amples informations, veuillez communiquer avec le directeur du programme de pédagogie à la Faculté Saint-Jean.

183.5.3 Directives du programme

(1) Les candidats doivent s'inscrire en tant que "étudiants au diplôme de perfectionnement" à la Faculté Saint-Jean.

(2) Les étudiants doivent obtenir une note de 5 ou plus dans chacun des cours du diplôme.

(3) L'admission à un diplôme ne constitue pas une admission à un programme de maîtrise. Les étudiants qui désirent s'inscrire à un programme de maîtrise doivent consulter les autorités concernées à la faculté d'Études supérieures.

(4) Les cours ayant déjà servi à l'obtention d'un diplôme de MEd/BEd ne peuvent être crédités à nouveau en vue du diplôme.

(5) Les étudiants inscrits au programme du diplôme ne sont tenus ni aux tests/examens ni aux cours obligatoires des programmes du premier cycle de la Faculté Saint-Jean.

(6) S'il désire changer son programme, l'étudiant doit consulter le doyen ou le directeur du secteur pédagogique de la Faculté Saint-Jean.

183.5.4 Les programmes

(1) **Diplôme de perfectionnement pour les enseignants en milieu francophone minoritaire**

183.4.2 Academic Standing

(1) To be granted the BEd degree students must obtain a grade point average of at least 5.0 on all courses of the last three years of their program.

(2) To be recommended for the Interim Professional Certificate, students must obtain a grade point average of 5 in all compulsory professional courses.

(3) Students transferring to the BEd program at the University of Alberta with Advanced Standing must obtain a grade point average of at least 5.0 in all courses completed at the University of Alberta for credit towards the degree.

(4) a. Students who receive a failing grade in Phase II or Phase III courses will not be allowed to register in any further Education Practicum courses and will be required to withdraw from the education program at Faculté Saint-Jean.
b. Students who withdraw from a Phase II or Phase III Education Practicum course must have the approval of the Coordinator of the Education program to re-register for that course.
c. Students on probation for academic reasons may not register in any Phase II or Phase III courses.

(5) A student will not be granted the privilege of repeating a failed year more than once during the degree program.

(6) The maximum number of additional courses in education, including repeated courses, in which a student may enroll during a BEd program may not exceed by more than 30 units of course weight the number of units of course weight required for completion of any BEd program.

(7) BEd and BEd/AD students must complete in their program three units of course weight in computing science or the equivalent, preferably CU ME 347, or CMPUT 161, EDACT 274, INFOR 161.

183.5 The Diploma Programs in Education

183.5.1 General Information

Faculté Saint-Jean offers two diploma programs:

(1) In Francophone Education in minority settings; and

(2) In French Immersion Education.

The Diploma programs are designed to enable practising teachers to further their knowledge and skills in designated areas related to French language education.

183.5.2 Program Requirements

The program consists of 24 units of course weight at the senior and graduate levels, 15 of which are compulsory (the program core) and nine are elective. Required courses provide the general theoretical and linguistic framework for each of the areas of concentration (French Immersion Education and Francophone Education in minority settings) while electives provide opportunities for specialization relative to the interests and professional needs of the students.

The Diploma may be completed on a full-time or part-time basis, but must be finished within four academic years of initial registration.

More detailed information is available by communicating with the Director of the Education Program, Faculté Saint-Jean.

183.5.3 Program Guidelines

(1) Candidates will register as "Diploma Students" in Faculté Saint-Jean.

(2) Students must receive a grade of 5 or better in any course credited to the Diploma.

(3) Admission to the Diploma Program does not constitute admission to a Master's Program. Students wishing to apply for a Master's program should consult the appropriate authorities to ascertain the requirements for graduate degrees.

(4) Students who now hold an MEd/BEd degree may not obtain the Diploma on the basis of courses already credited toward the MEd or the BEd.

(5) Students registered in the Diploma Program are not held to the examinations and the compulsory courses which are part of the undergraduate programs of the Faculté.

(6) For a change in program, students should consult the Dean or the Director of the Education Program at Faculté Saint-Jean.

183.5.4 Programs

(1) **Diploma Program in Francophone Education in Minority Settings**

Cours obligatoires (15 crédits)

a. CU ME 497 (3 crédits)
b. CU ME 500 (3 crédits)
c. CU ME 501 (3 crédits)
d. Trois crédits de niveau 300 ou 400 en fondements de l'éducation ayant trait à l'éducation francophone en milieu minoritaire (ex. FO ED 401)
e. Trois crédits de niveau 300 ou 400 de langue, ou 3 crédits de niveau 300 ou 400 en littérature ou en culture et civilisation, française ou canadienne-française.

Cours optionnels (9 crédits)

Les cours optionnels permettent une spécialisation dans des domaines répondant aux intérêts et aux besoins professionnels des étudiants.

a. 3 crédits
b. 3 crédits
c. 3 crédits

Diplôme de perfectionnement pour les enseignants en milieu d'immersion française

Cours obligatoires (15 crédits)

a. CU ME 458 (3 crédits)
b. CU ME 500 (3 crédits)
c. CU ME 501 (3 crédits)
d. Trois crédits de niveau 300 ou 400 dans le domaine de l'éducation bilingue (ex. PS ED 477)
e. Trois crédits de niveau 300 ou 400 de langue, ou 3 crédits de niveau 300 ou 400 en littérature ou en culture et civilisation, française ou canadienne-française.

Cours optionnels (9 crédits)

Les cours optionnels permettent une spécialisation dans des domaines répondant aux intérêts et aux besoins professionnels des étudiants.

a. 3 crédits
b. 3 crédits
c. 3 crédits

3.6 Baccalauréat en Education/Baccalauréat-ès-Sciences

3.6.1 Renseignements Généraux:

Le programme de cinq ans est une combinaison du BEd secondaire et du BSc éral et comprend 150 crédits. La nature du programme permet à l'étudiant tenir les deux diplômes puisqu'il complète toutes les exigences des deux grammes à l'exception du cours de littérature anglaise requis au BSc. Cette ence a été remplacée par un cours obligatoire en littérature française ou adienne-française. Les finissants de ce programme seront recommandés pour revet d'enseignement temporaire.

Les étudiants doivent choisir une spécialisation et une concentration mineure s deux des trois domaines suivants: sciences mathématiques, sciences physiques, ciences biologiques. Tous les étudiants doivent en plus compléter une concen-on mineure en français. Le but de ce programme préparatoire est de former des eignants possédant une bonne connaissance de la langue et de la culture çaises en plus d'un entraînement supérieur en sciences.

L'étudiant, se classant dans la voie avancée en français, peut choisir entre deux ntations pour se préparer à l'enseignement, en milieu francophone minoritaire ou nilieu d'immersion française.

Les étudiants des programmes du BEd ou du BSc peuvent être admis au gramme combiné après la première ou la deuxième année en autant qu'ils aient plété les cours requis, que les résultats de l'année précédente soient satisfai-ts et qu'ils aient rempli les conditions d'admission du programme combiné au nent du transfert. Un étudiant pourra normalement transférer du programme biné au programme du BEd ou du BSc (général) après la première ou la xième année et compléter un seul diplôme dans les délais prévus.

3.6.2 Programmes Généraux

e intermédiaire: L'enseignement en milieu d'mmersion française

mière année

ANC 160	FRANC 261
ANC 160	LINGQ 200
THQ 113 or 114	MATHQ 115
ence physique	Science physique
ence biologique	Science biologique

uxième année

ANC 262	FRANC 322
ED 201	PS ED 266
cialisation	Spécialisation
cialisation	Spécialisation
eure en sciences	Mineure en sciences

isième année

ANC 325 ou CA FR 350	Culture/civilisation
ME 350	Informatique
ME (Math et sciences)	ENPRQ 251
ME (Math et sciences)	Histoire ou philosophie de la science
cialisation	Spécialisation

Compulsory courses (15 units of course weight)

a. CU ME 497 (3 units of course weight)
b. CU ME 500 (3 units of course weight)
c. CU ME 501 (3 units of course weight)
d. three units of course weight (300- or 400-level) in Educational Foundations relating to francophone education in minority settings (eg: FO ED 401)
e. three units of course weight (300- or 400-level) in language, or 3 units of course weight in French or French-Canadian literature or culture and civilization.

Options (9 units of course weight)

Elective courses provide opportunities for specialization relative to the interests and professional needs of the students.

a. 3 units of course weight
b. 3 units of course weight
c. 3 units of course weight

(2) **Diploma Program in French Immersion Education**

Compulsory courses (15 units of course weight)

a. CU ME 458 (3 units of course weight)
b. CU ME 500 (3 units of course weight)
c. CU ME 501 (3 units of course weight)
d. 3 units of course weight (300- or 400-level) in bilingual education (eg: PS ED 477)
e. three units of course weight (300- or 400-level) in language, or three units of course weight in French or French-Canadian literature or culture and civilization.

Options (9 units of course weight)

Elective courses provide opportunities for specialization relative to the interests and professional needs of the students.

a. 3 units of course weight
b. 3 units of course weight
c. 3 units of course weight

183.6 Bachelor of Education/Bachelor of Science Degrees

183.6.1 General Information

The five-year program, consisting of 150 units of course weight, is a combination of the BEd (secondary route) and BSc (general) degrees. Its integrated nature allows a student to receive both the BEd degree and the BSc degree by meeting all the requirements of both programs with the exception of the English literature requirement of the latter which has been replaced by a compulsory course in French or French-Canadian literature. Graduands from the program will meet the requirements for teacher certification.

Students are required to select a Specializaiton from one of the three areas of Science: Mathematical Sciences, Physical Sciences, and Biological Sciences. One of the two remaining areas must be selected as a Science Minor. In addition, all students are required to present a Minor in French. It is intended that graduands have a sound knowledge of French language and culture in addition to enhanced Science training presented by this teacher-preparation program.

Students who follow the Advanced route may select one of the two routes of teacher preparation, in Francophone Education in minority settings, or in French Immersion Education.

Students in either a BEd or a BSc program may transfer into the combined program after the first or second year providing that all courses and academic standing of Year One and Year Two of the combined program, as well as all admission requirements, have been met at the time of the transfer. Normally, a student will be able to transfer from the combined program to a BEd or BSc (general) program after Years One and Two and should be able to complete the single degree within the normal time frame.

183.6.2 General Programs

Intermediate Route: French Immersion Education

First Year

FRANC 160	FRANC 261
FRANC 160	LINGQ 200
MATHQ 113 or 114	MATHQ 115
Physical Science	Physical Science
Biological Science	Biological Science

Second Year

FRANC 262	FRANC 322
FO ED 201	PS ED 266
Specialization	Specialization
Specialization	Specialization
Science Minor	Science Minor

Third Year

FRANC 325 or CA FR 350	Culture/civilization
CU ME 350	Computing Science
CU ME (Math and science)	ENPRQ 251
CU ME (Math and science)	History or philosophy of science
Specialization	Specialization

Quatrième année

CU ME 358 ou 359	PS ED 495
CU ME (Math et sciences)	Option en éducation
CU ME (Math et sciences)	ENPRQ 354
ENPRQ 352	ENPRQ 355
ENPRQ 353	ENPRQ 356

Cinquième année

ADMSC 401	FO ED 452
Spécialisation	Spécialisation
Spécialisation	Spécialisation
Mineure en sciences	Mineure en sciences
Mineure en sciences	Mineure en sciences

Voie avancée: *L'enseignement en milieu d'immersion française*

Première année

FRANC 165	FRANC 166
INFOR 161	LINGQ 200
MATHQ 113 ou 114	MATHQ 115
Science physique	Science physique
Science biologique	Science biologique

Deuxième année

FRANC 267	FRANC 322
FO ED 201	PS ED 266
Spécialisation	Spécialisation
Spécialisation	Spécialisation
Mineure en sciences	Mineure en sciences

Troisième année

FRANC 325 ou CA FR 350	Culture/civilisation
CU ME 350	Mineure en français
CU ME (Math et sciences)	ENPRQ 251
CU ME (Math et sciences)	Histoire ou philosophie de la science
Spécialisation	Spécialisation

Quatrième année

CU ME 358 ou 359	PS ED 495
CU ME (Math et sciences)	Option en éducation
CU ME (Math et sciences)	ENPRQ 354
ENPRQ 352	ENPRQ 355
ENPRQ 353	ENPRQ 356

Cinquième année

ADMSC 401	FO ED 452
Spécialisation	Spécialisation
Spécialisation	Spécialisation
Mineure en sciences	Mineure en sciences
Mineure en sciences	Mineure en sciences

Voie avancée: *L'enseignement en milieu francophone minoritaire*

Première année

FRANC 165	FRANC 166
INFOR 161	LINGQ 200
MATHQ 113 ou 114	MATHQ 115
Science physique	Science physique
Science biologique	Science biologique

Deuxième année

FRANC 267	FRANC 322
Mineure en français	PS ED 266
Spécialisation	Spécialisation
Spécialisation	Spécialisation
Mineure en sciences	Mineure en sciences

Troisième année

FRANC 325 ou CA FR 350	Culutre/civilisation
Mineure en français	CU ME 357
CU ME (Math et sciences)	ENPRQ 251
CU ME (Math et sciences)	Histoire ou philosophie de la science
Spécialisation	Spécialisation

Quatrième année

CU ME 358	PS ED 477 ou 495
CU ME 359	
CU ME (Math et sciences)	Option en éducation
CU ME (Math et sciences)	ENPRQ 354
ENPRQ 352	ENPRQ 355
ENPRQ 353	ENPRQ 356

Cinquième année

FO ED 401	ADMSC 401
Spécialisation	Spécialisation
Spécialisation	Spécialisation
Mineure en sciences	Mineure en sciences
Mineure en sciences	Mineure en sciences

Les cinq années du programme combiné dans les trois domaines de spécialisation se présentent comme suit:

Spécialisation: Sciences biologiques

Voie intermédiaire: *L'enseignement en milieu d'immersion française*

Première année

FRANC 160	FRANC 261
FRANC 160	LINGQ 200
MATHQ 113 ou 114	MATHQ 115
CHIM 160	CHIM 160
ZOOLE 120	BIOLE 197

Fourth Year

CU ME 358 or 359	PS ED 495
CU ME (Math and science)	Option in education
CU ME (Math and science)	ENPRQ 354
ENPRQ 352	ENPRQ 355
ENPRQ 353	ENPRQ 356

Fifth Year

ADMSC 401	FO ED 452
Specialization	Specialization
Specialization	Specialization
Science minor	Science minor
Science minor	Science minor

Advanced Route: *French Immersion Education*

First Year

FRANC 165	FRANC 166
INFOR 161	LINGQ 200
MATHQ 113 or 114	MATHQ 115
Physical Science	Physical Science
Biological Science	Biological Science

Second Year

FRANC 267	FRANC 322
FO ED 201	PS ED 266
Specialization	Specialization
Specialization	Specialization
Science minor	Science minor

Third Year

FRANC 325 or CA FR 350	Culture/civilization
CU ME 350	Minor in French
CU ME (Math and science)	ENPRQ 251
CU ME (Math and science)	History or philosophy of science
Specialization	Specialization

Fourth Year

CU ME 358 or 359	PS ED 495
CU ME (math and science)	Option in education
CU ME (math and science)	ENPRQ 354
ENPRQ 352	ENPRQ 355
ENPRQ 353	ENPRQ 356

Fifth Year

ADMSC 401	FO ED 452
Specialization	Specialization
Specialization	Spceicalization
Science minor	Science minor
Science minor	Science minor

Advanced Route: *Francophone Education in a minority setting*

First Year

FRANC 165	FRANC 166
INFOR 161	LINGQ 200
MATHQ 113 or 114	MATHQ 115
Physical Science	Physical Science
Biological Science	Biological Science

Second Year

FRANC 267	FRANC 322
Minor in French	PS ED 266
Specialization	Specialization
Specialization	Specialization
Science minor	Science minor

Third Year

FRANC 325 or CA FR 350	Culture/civilization
Minor in French	CU ME 357
CU ME (Math and science)	ENPRQ 251
CU ME (Math and science)	History or philosophy of science
Specialization	Specialization

Fourth Year

CU ME 358	PS ED 477 or 495
CU ME 359	
CU ME (Math and science)	Option in education
CU ME (Math and science)	ENPRQ 354
ENPRQ 352	ENPRQ 355
ENPRQ 353	ENPRQ 356

Fifth Year

FO ED 401	ADMSC 401
Specialization	Specialization
Specialization	Specialization
Science minor	Science minor
Science minor	Science minor

The following is a year by year program for the three major areas of conc tion in the combined degree program:

Specialization: Biological Sciences

Intermediate Route: *French Immersion Education*

First Year

FRANC 160	FRANC 261
FRANC 160	LINGQ 200
MATHQ 113 or 114	MATHQ 115
CHIM 160	CHIM 160
ZOOLE 120	BIOLE 197

euxième année

RANC 262	FRANC 322
D ED 201	PS ED 266
OTQ 199	MICRB 193
IOLE 201	BIOLE 202
ineure en sciences*	Mineure en sciences*

roisième année

RANC 325 ou CA FR 350	Culture/civilisation
U ME 350	ENPRQ 251
U ME 368 ou 364	BIOLE 315 ou HUME 420 ou PHILE 364 ou 386
U ME 369 ou option en éducation	Informatique
cience biologique	Science biologique

uatrième année

U ME 358 ou 359	PS ED 495
U ME 364 ou 368	Option en éducation
ption en éducation ou CU ME 369	ENPRQ 354
NPRQ 352	ENPRQ 355
NPRQ 353	ENPRQ 356

inquième année

DMSC 401	FO ED 452
cience biologique (niveau 300)	Science biologique (niveau 300)
cience biologique (niveau 300)	Science biologique (niveau 300)
ineure en sciences	Mineure en sciences
ineure en sciences (niveau 300)	Mineure en sciences (niveau 300)

oie avancée: *L'enseignement en milieu d'immersion française*

remière année

RANC 165	FRANC 166
IFOR 161	LINGQ 200
ATHQ 113 ou 114	MATHQ 115
HIM 160	CHIM 160
OOLE 120	BIOLE 197

euxième année

RANC 267	FRANC 322
D ED 201	PS ED 266
OTQ 199	MICRB 193
IOLE 201	BIOLE 202
ineure en sciences*	Mineure en sciences*

roisième année

RANC 325 ou CA FR 350	Culture/civilisation
U ME 350	ENPRQ 251
U ME 368 ou 364	BIOLE 315 ou HUME 420 ou PHILE 364 ou 386
U ME 369 ou option en éducation	Mineure en français
cience biologique	Science biologique

uatrième année

U ME 358 ou 359	PS ED 495
U ME 364 ou 368	Option en éducation
ption en éducation ou CU ME 369	ENPRQ 354
NPRQ 352	ENPRQ 355
NPRQ 353	ENPRQ 356

inquième année

DMSC 401	FO ED 452
cience biologique (niveau 300)	Science biologique (niveau 300)
cience biologique (niveau 300)	Science biologique (niveau 300)
ineure en sciences	Mineure en sciences
ineure en sciences (niveau 300)	Mineure en sciences (niveau 300)

oie avancée: *L'enseignement en milieu francophone minoritaire*

remière année

RANC 165	FRANC 166
IFOR 161	LINGQ 200
ATHQ 113 ou 114	MATHQ 115
HIM 160	CHIM 160
OOLE 120	BIOLE 197

euxième année

RANC 267	FRANC 322
ineure en français	PS ED 266
OTQ 199	MICRB 193
OLE 201	BIOLE 202
ineure en sciences*	Mineure en sciences*

roisième année

RANC 325 ou CA FR 350	Culture/civilisation
ineure en français	ENPRQ 251
U ME 368 ou 364	BIOLE 315 ou HUME 420 ou PHILE 364 ou 386
U ME 369 ou option en éducation	CU ME 357
cience biologique	Science biologique

uatrième année

U ME 358	PS ED 477 ou 495
U ME 359	
U ME 364 ou 368	
ption en éducation ou CU ME 369	ENPRQ 354
NPRQ 352	ENPRQ 355
NPRQ 353	ENPRQ 356

inquième année

D ED 401	ADMSC 401
cience biologique (niveau 300)	Science biologique (niveau 300)
cience biologique (niveau 300)	Science biologique (niveau 300)
ineure en sciences	Mineure en sciences
ineure en sciences (niveau 300)	Mineure en sciences (niveau 300)

CHIM 204 recommandé

Second Year

FRANC 262	FRANC 322
FO ED 201	PS ED 266
BOTQ 199	MICRB 193
BIOLE 201	BIOLE 202
Science minor*	Science minor*

Third Year

FRANC 325 or CA FR 350	Culture/civilization
CU ME 350	ENPRQ 251
CU ME 368 or 364	BIOLE 315 or HUME 420 or PHILE 364 or 386
CU ME 369 or option in education	Computing Science
Biological Science	Biological Science

Fourth Year

CU ME 358 or 359	PS ED 495
CU ME 364 or 368	Option in education
Option in education or CU ME 369	ENPRQ 354
ENPRQ 352	ENPRQ 355
ENPRQ 353	ENPRQ 356

Fifth Year

ADMSC 401	FO ED 452
Biological Science (300-level)	Biological Science (300-level)
Biological Science (300-level)	Biological Science (300-level)
Science minor	Science minor
Science minor (300-level)	Science minor (300-level)

Advanced Route: *French Immersion Education*

First Year

FRANC 165	FRANC 166
INFOR 161	LINGQ 200
MATHQ 113 or 114	MATHQ 115
CHIM 160	CHIM 160
ZOOLE 120	BIOLE 197

Second Year

FRANC 267	FRANC 322
FO ED 201	PS ED 266
BOTQ 199	MICRB 193
BIOLE 201	BIOLE 202
Science minor*	Science minor*

Third Year

FRANC 325 or CA FR 350	Culture/civilization
CU ME 350	ENPRQ 251
CU ME 368 or 364	BIOLE 315 or HUME 420 or PHILE 364 or 386
CU ME 369 or option in education	Minor in French
Biological Science	Biological Science

Fourth Year

CU ME 358 or 359	PS ED 495
CU ME 364 or 368	Option in education
Option in education or CU ME 369	ENPRQ 354
ENPRQ 352	ENPRQ 355
ENPRQ 353	ENPRQ 356

Fifth Year

ADMSC 401	FO ED 452
Biological Science (300-level)	Biological Science (300-level)
Biological Science (300-level)	Biological Science (300-level)
Science minor	Science minor
Science minor (300-level)	Science minor (300-level)

Advanced Route: *Francophone Education in a Minority Setting*

First Year

FRANC 165	FRANC 166
INFOR 161	LINGQ 200
MATHQ 113 or 114	MATHQ 115
CHIM 160	CHIM 160
ZOOLE 120	BIOLE 197

Second Year

FRANC 267	FRANC 322
Minor in French	PS ED 266
BOTQ 199	MICRB 193
BIOLE 201	BIOLE 202
Science minor*	Science minor*

Third Year

FRANC 325 or CA FR 350	Culture/civilization
Minor in French	ENPRQ 251
CU ME 368 or 364	BIOLE 315 or HUME 420 or PHILE 364 or 386
CU ME 369 or option in education	CU ME 357
Biological Science	Biological Science

Fourth Year

CU ME 358	PS ED 477 or 495
CU ME 359	
CU ME 364 or 368	
Option in education or CU ME 369	ENPRQ 354
ENPRQ 352	ENPRQ 355
ENPRQ 353	ENPRQ 356

Fifth Year

FO ED 401	ADMSC 401
Biological Science (300-level)	Biological Science (300-level)
Biological Science (300-level)	Biological Science (300-level)
Science minor	Science minor
Science minor (300-level)	Science minor (300-level)

***CHIM 204 recommended**

Spécialisation: Sciences mathématiques

Voie intermédiaire: *L'enseignement en milieu d'immersion française*

Première année	
FRANC 160	FRANC 261
FRANC 160	LINGQ 200
MATHQ 113 ou 114	MATHQ 115
CHIM 100 ou 104 ou PHYSQ 141	CHIM 100 ou 104 ou PHYSQ 143
ZOOLE 120	BIOLE 197
Deuxième année	
FRANC 262	FRANC 322
FO ED 201	PS ED 266
MATHQ 120	MATH 223
MATH 241	MATH 242
Mineure en sciences	Mineure en sciences
Troisième année	
FRANC 325 ou CA FR 350	Culture/civilisation
CU ME 350	ENPRQ 251
CU ME 364 ou 368	BIOLE 315 ou HUME 420 ou PHILE 364 ou 386
CU ME 365 ou option en éducation	Informatique
STAT 141	Science mathématique (niveau 300)
Quatrième année	
CU ME 358 ou 359	PS ED 495
CU ME 368 ou 364	Option en éducation
Option en éducation ou CU ME 365	ENPRQ 354
ENPRQ 352	ENPRQ 355
ENPRQ 353	ENPRQ 356
Cinquième année	
ADMSC 401	FO ED 452
Science mathématique (niveau 300)	Science mathématique (niveau 300)
Science mathématique (niveau 300)	Option en sciences
Mineure en sciences	Mineure en sciences
Mineure en sciences (niveau 300)	Mineure en sciences (niveau 300)

Voie avancée: *Lenseignement en milieu d'immersion française*

Première année	
FRANC 165	FRANC 166
INFOR 161	LINGQ 200
MATHQ 113 ou 114	MATHQ 115
CHIM 100 ou 104 ou PHYSQ 141	CHIM 100 ou 104 ou PHYSQ 143
ZOOLE 120	BIOLE 197
Deuxième année	
FRANC 267	FRANC 322
FO ED 201	PS ED 266
MATHQ 120	MATH 223
MATH 241	MATH 242
Mineure en sciences	Mineure en sciences
Troisième année	
FRANC 325 ou CA FR 350	Culture/civilisation
CU ME 350	ENPRQ 251
CU ME 364 ou 368	BIOLE 315 ou HUME 420 ou PHILE 364 ou 386
CU ME 365 ou option en éducation	Mineure en français
STAT 141	Science mathématique (niveau 300)
Quatrième année	
CU ME 358 ou 359	PS ED 495
CU ME 368 ou 364	Option en éducation
Option en éducation ou CU ME 365	ENPRQ 354
ENPRQ 352	ENPRQ 355
ENPRQ 353	ENPRQ 356
Cinquième année	
ADMSC 401	FO ED 452
Science mathématique (niveau 300)	Science mathématique (niveau 300)
Science mathématique (niveau 300)	Option en sciences
Mineure en sciences	Mineure en sciences
Mineure en sciences (niveau 300)	Mineure en sciences (niveau 300)

Voie avancée: *L'enseignement en milieu francophone minoritaire*

Première année	
FRANC 165	FRANC 166
INFOR 161	LINGQ 200
MATHQ 113 ou 114	MATHQ 115
CHIM 100 ou 104 ou PHYSQ 141	CHIM 100 ou 104 ou PHYSQ 143
ZOOLE 120	BIOLE 197
Deuxième année	
FRANC 267	FRANC 322
Mineure en français	PS ED 266
MATHQ 120	MATH 223
MATH 241	MATH 242
Mineure en sciences	Mineure en sciences
Troisième année	
FRANC 325 ou CA FR 350	Culture/civilisation
Mineure en français	ENPRQ 251
CU ME 364 ou 368	BIOLE 315 ou HUME 420 ou PHILE 364 ou 386
CU ME 365 ou option en éducation	CU ME 357
STAT 141	Science mathématique (niveau 300)
Quatrième année	
CU ME 358	PS ED 477 ou 495
CU ME 368 ou 364	

Specialization: Mathematical Sciences

Intermediate Route: *French Immersion Education*

First Year	
FRANC 160	FRANC 261
FRANC 160	LINGQ 200
MATHQ 113 or 114	MATHQ 115
CHIM 100 or 104 or PHYSQ 141	CHIM 100 or 104 or PHYSQ 143
ZOOLE 120	BIOLE 197
Second Year	
FRANC 262	FRANC 322
FO ED 201	PS ED 266
MATHQ 120	MATH 223
MATH 241	MATH 242
Science minor	Science minor
Third Year	
FRANC 325 or CA FR 350	Culture/civilization
CU ME 350	ENPRQ 251
CU ME 364 or 368	BIOLE 315 or HUME 420 or PHILE 364 or 386
CU ME 365 or option in education	Computing science
STAT 141	Mathematical science (300-level)
Fourth Year	
CU ME 358 or 359	PS ED 495
CU ME 368 or 364	Option in education
Option in education or CU ME 365	ENPRQ 354
ENPRQ 352	ENPRQ 355
ENPRQ 353	ENPRQ 356
Fifth Year	
ADMSC 401	FO ED 452
Mathematical Science (300-level)	Mathematical Science (300-level)
Mathematical Science (300-level)	Science option
Science minor	Science minor
Science minor (300-level)	Science minor (300-level)

Advanced Route: *French Immersion Education*

First Year	
FRANC 165	FRANC 166
INFOR 161	LINGO 200
MATHQ 113 or 114	MATHQ 115
CHIM 100 or 104 or PHYSQ 141	CHIM 100 or 104 or PHYSQ 143
ZOOLE 120	BIOLE 197
Second Year	
FRANC 267	FRANC 322
FO ED 201	PS ED 266
MATHQ 120	MATH 223
MATH 241	MATH 242
Science minor	Science minor
Third Year	
FRANC 325 or CA FR 350	Culture/civilization
CU ME 350	ENPPRQ 251
CU ME 364 or 368	BIOLE 315 or HUME 420 or PHILE 364 or 386
CU ME 365 or option in education	Minor in French
STAT 141	Mathematical Science (300-level)
Fourth Year	
CU ME 358 or 359	PS ED 495
CU ME 368 or 364	Option in education
Option in education or CU ME 365	ENPRQ 354
ENPRQ 352	ENPRQ 355
ENPRQ 353	ENPRQ 356
Fifth Year	
ADMSC 401	FO ED 452
Mathematical Science (300-level)	Mathematical Science (300-level)
Mathematical Science (300-level)	Science option
Science minor	Science minor
Science minor (300-level)	Science minor (300-level)

Advanced Route: *Francophone Education in a Minority Setting*

First Year	
FRANC 165	FRANC 166
INFOR 161	LINGQ 200
MATHQ 113 or 114	MATHQ 115
CHIM 100 or 104 or PHYSQ 141	CHIM 100 or 104 or PHYSQ 143
ZOOLE 120	BIOLE 197
Second Year	
FRANC 267	FRANC 322
Minor in French	PS ED 266
MATHQ 120	MATH 223
MATH 241	MATH 242
Science minor	Science minor
Third Year	
FRANC 325 or CA FR 350	Culture/civilization
Minor in French	ENPRQ 251
CU ME 364 or 368	BIOLE 315 or HUME 420 or PHILE 364 or 386
CU ME 365 or option in education	CU ME 357
STAT 141	Mathematical Science (300-level)
Fourth Year	
CU ME 358	PS ED 477 or 495
CU ME 368 or 364	

CU ME 359
Option en éducation ou CU ME 365 — ENPRQ 354
ENPRQ 352 — ENPRQ 355
ENPRQ 353 — ENPRQ 356

Cinquième année
FO ED 401 — ADMSC 401
Science mathématique (niveau 300) — Science mathématique (niveau 300)
Mineure en sciences — Mineure en sciences
Mineure en sciences (niveau 300) — Mineure en sciences (niveau 300)
Science mathématique (niveau 300) — Option en sciences

Spécialisation: Sciences physiques

Voie intermédiaire: *L'enseignement en milieu d'immersion française*

Première année
FRANC 160 — FRANC 261
FRANC 160 — LINGQ 200
MATHQ 113 ou 114 — MATHQ 115
CHIM 104 — CHIM 104
PHYSQ 141 — PHYSQ 143

Deuxième année
FRANC 262 — FRANC 322
FO ED 201 — PS ED 266
ZOOLE 120 — BIOLE 197
CHIM 260 — CHIM 260
Mineure en sciences — Mineure en sciences

Troisième année
FRANC 325 ou CA FR 350 — Culture/civilisation
CU ME 350 — ENPRQ 251
CU ME 368 ou 364 — BIOLE 315 ou HUME 420 ou PHILE 364 ou 386
CU ME 369 ou option en éducation — Informatique
PHYSQ 271 — PHYS 204

Quatrième année
CU ME 358 ou 359 — PS ED 495
CU ME 364 ou 368 — Option en éducation
Option en éducation ou CU ME 369 — ENPRQ 354
ENPRQ 352 — ENPRQ 355
ENPRQ 353 — ENPRQ 356

Cinquième année
ADMSC 401 — FO ED 452
Science physique (niveau 300) — Science physique (niveau 300)
Science physique (niveau 300) — Science physique (niveau 300)
Mineure en sciences — Mineure en sciences
Mineure en sciences (niveau 300) — Mineure en sciences (niveau 300)

Voie avancée: *L'enseignement en milieu d'immersion française*

Première année
FRANC 165 — FRANC 166
INFOR 161 — LINGQ 200
MATHQ 113 ou 114 — MATHQ 115
CHIM 104 — CHIM 104
PHYSQ 141 — PHYSQ 143

Deuxième année
FRANC 267 — FRANC 322
FO ED 201 — PS ED 266
ZOOLE 120 — BIOLE 197
CHIM 260 — CHIM 260
Mineure en sciences — Mineure en sciences

Troisième ananée
FRANC 325 ou CA FR 350 — Culture/civilisation
CU ME 350 — ENPRQ 251
CU ME 368 ou 364 — BIOLE 315 ou HUME 420 ou PHILE 364 ou 386
CU ME 369 ou option en éducation — Mineure en français
PHYSQ 271 — PHYS 204

Quatrième année
CU ME 358 ou 359 — PS ED 495
CU ME 364 ou 368 — Option en éducation
Option en éducation ou CU ME 369 — ENPRQ 354
ENPRQ 352 — ENPRQ 355
ENPRQ 353 — ENPRQ 356

Cinquième année
ADMSC 401 — FO ED 452
Science physique (niveau 300) — Science physique (niveau 300)
Science physique (niveau 300) — Science physique (niveau 300)
Mineure en sciences — Mineure en sciences
Mineure en sciences (niveau 300) — Mineure en sciences (niveau 300)

Voie avancée: *L'enseignement en milieu francophone minoritaire*

Première année
FRANC 165 — FRANC 166
INFOR 161 — LINGQ 200
MATHQ 113 ou 114 — MATHQ 115
CHIM 104 — CHIM 104
PHYSQ 141 — PHYSQ 143

Deuxième année
FRANC 267 — FRANC 322
Mineure en français — PS ED 266
ZOOLE 120 — BIOLE 197
CHIM 260 — CHIM 260
Mineure en sciences — Mineure en sciences

CU ME 359
Option in education or CU ME 365 — ENPRQ 354
ENPRQ 352 — ENPRQ 355
ENPRQ 353 — ENPRQ 356

Fifth Year
FO ED 401 — ADMSC 401
Mathematical Science (300-level) — Mathematical Science (300-level)
Science minor — Science minor
Science minor (300-level) — Science minor (300-level)
Mathematical science (300-level) — Science option

Specialization: Physical Sciences

Intermediate Route: *French Immersion Education*

First Year
FRANC 160 — FRANC 261
FRANC 160 — LINGQ 200
MATHQ 113 or 114 — MATHQ 115
CHIM 104 — CHIM 104
PHYSQ 141 — PHYSQ 143

Second Year
FRANC 262 — FRANC 322
FO ED 201 — PS ED 266
ZOOLE 120 — BIOLE 197
CHIM 260 — CHIM 260
Science minor — Science minor

Third Year
FRANC 325 or CA FR 350 — Culture/civilization
CU ME 350 — ENPRQ 251
CU ME 368 or 364 — BIOLE 315 or HUME 420 or PHILE 364 or 386
CU ME 369 or option in education — Computing Science
PHYSQ 271 — PHYS 204

Fourth Year
CU ME 358 or 359 — PS ED 495
CU ME 364 or 368 — Option in education
Option in education or CU ME 369 — ENPRQ 354
ENPRQ 352 — ENPRQ 355
ENPRQ 353 — ENPRQ 356

Fifth Year
ADMSC 401 — FO ED 452
Physical Science (300-level) — Physical Science (300-level)
Physical Science (300-level) — Physical Science (300-level)
Science minor — Science minor
Science minor (300-level) — Science minor (300-level)

Advanced Route: *French Immersion Education*

First Year
FRANC 165 — FRANC 166
INFOR 161 — LINGQ 200
MATHQ 113 or 114 — MATHQ 115
CHIM 104 — CHIM 104
PHYSQ 141 — PHYSQ 143

Second Year
FRANC 267 — FRANC 322
FO ED 201 — PS ED 266
ZOOLE 120 — BIOLE 197
CHIM 260 — CHIM 260
Science minor — Science minor

Third Year
FRANC 325 or CA FR 350 — Culture/civilization
CU ME 350 — ENPRQ 251
CU ME 368 or 364 — BIOLE 315 or HUME 420 or PHILE 364 or 386
CU ME 369 or option in education — Minor in French
PHYSQ 271 — PHYS 204

Fourth Year
CU ME 358 or 359 — PS ED 495
CU ME 364 or 368 — Option in education
Option in education or CU ME 369 — ENPRQ 354
ENPRQ 352 — ENPRQ 355
ENPRQ 353 — ENPRQ 356

Fifth Year
ADMSC 401 — FO ED 452
Physical science (300-level) — Physical science (300-level)
Physical science (300-level) — Physical science (300-level)
Science minor — Science minor
Science minor (300-level) — Science minor (300-level)

Advanced Route: *Francophone Education in a Minority Setting*

First Year
FRANC 165 — FRANC 166
INFOR 161 — LINGQ 200
MATHQ 113 or 114 — MATHQ 115
CHIM 104 — CHIM 104
PHYSQ 141 — PHYSQ 143

Second Year
FRANC 267 — FRANC 322
Minor in French — PS ED 266
ZOOLE 120 — BIOLE 197
CHIM 260 — CHIM 260
Science minor — Science minor

Troisième année	
FRANC 325 ou CA FR 350	Culture/civilisation
Mineure en français	ENPRQ 251
CU ME 368 ou 364	BIOLE 315 ou HUME 420 ou PHILE 364 ou 386
CU ME 369 ou option en éducation	CU ME 357
PHYSQ 271	PHYS 204
Quatrième année	
CU ME 358	PS ED 477 ou 495
CU ME 359	
CU ME 364 ou 368	
Option en éducation ou CU ME 369	ENPRQ 354
ENPRQ 352	ENPRQ 355
ENPRQ 353	ENPRQ 356
Cinquième année	
FO ED 401	ADMSC 401
Science physique (niveau 300)	Science physique (niveau 300)
Science physique (niveau 300)	Science physique (niveau 300)
Mineure en sciences	Mineure en sciences
Mineure en sciences (niveau 300)	Mineure en science (niveau 300)

183.6.3 Exigences du Programme

(1) Pour obtenir lex deux diplômes, BEd et BSc, un édtudiant doit obtenir 150 crédits répartis comme suit:

a. Orientation en milieu d'immersion française: 72 crédits en sciences, 54 crédits en pédagogie et 24 crédits en français.

Spécialisation (sciences) — 36 crédits
Mineure (sciences) — 24 crédits
Mineure (français) — 24 crédits
Informatique — 3 crédits
Histoire ou philosophie de la science — 3 crédits
Options (sciences) — 6 crédits
Cours de pédagogie — 54 crédits

b. Orientation en milieu francophone minoritaire: 72 crédits en sciences, 51 crédits en pédagogie et 27 crédits en français.

Spécialisation (sciences) — 36 crédits
Mineure (sciences) — 24 crédits
Mineure (français) — 27 crédits
Informatique — 3 crédits
Histoire ou philosophie de la science — 3 crédits
Options (sciences) — 6 crédits
Cours de pédagogie — 51 crédits

(2) Normalement, un maximum de 48 crédits au niveau "junior" ou l'équivalent est autorisé dans le programme combiné.

(3) Un étudiant doit réussir un minimum de 12 crédits de niveau 300 dans son domaine de spécialisation et un minimum de six crédits de niveau 300 dans sa concentration mineure en sciences.

(4) Un étudiant doit réussir à l'intérieur de sa concentration mineure en français: LINGQ 200, FRANC 322, trois crédits en culture/civilisation (voir 182.8(5)), et trois crédits en littérature (FRANC 325 ou CA FR 350).

(5) Un étudiant doit réussir à l'intérieur de ses cours en pédagogie au moins quatre des cinq cours suivants: CU ME 364, 365, 368, 369, option en pédagogie.

(6) Un étudiant doit réussir, sur l'histoire ou la philosophie de la science, trois crédits parmi les cours suivants: BIOLE 315, HUME 420, PHILE 364 ou PHILE 386.

(7) Un étudiant doit normalement réussir 30 crédits de niveau "junior" avant de pouvoir s'inscrire dans des cours de niveau "senior."

(8) Pour être admis avec équivalences universitaires dans le programme, un étudiant doit avoir obtenu une moyenne minimale de 5,5.

(9) Pour être autorisé à poursuivre le programme, un étudiant doit conserver une moyenne minimale de 5,5. S'il n'a pas obtenu 5,5 de moyenne, l'étudiant devra se retirer du programme combiné et pourra transférer, si éligible, au programme du BEd ou du BSc.

(10) Pour recevoir les diplômes du BEd et du BSc, l'étudiant devra conserver une moyenne d'au moins 5,5 dans tous les cours avec notes et dans tous les cours de la spécialisation en sciences.

(11) Afin d'être recommandé pour un brevet d'enseignement temporaire, l'étudiant doit obtenir une moyenne d'au moins 5,0 dans tous les cours professionnels obligatoires.

(12) Un étudiant qui échoue aux cours des Phases II ou III ne peut s'inscrire à aucun autre cours d'enseignement pratique à la Faculté Saint-Jean et doit se retirer du programme.

(13) Un étudiant qui abandonne des cours de la Phase II ou de la Phase III doit obtenir la permission du coordonnateur du programme de pédagogie avant de s'y ré-inscrire.

183.7 Baccalauréat-ès-Sciences

183.7.1 Programme général (programme SA92)

Le programme général du BSc est conçu pour donner à l'étudiant une éducation variée dans plus d'une branche d'étude et il comprend une matière ou un domaine

Third Year	
FRANC 325 or CA FR 350	Culture/civilization
Minor in French	ENPRQ 251
CU ME 368 or 364	BIOLE 315 or HUME 420 or PHILE 364 or 386
CU ME 369 or option in education	CU ME 357
PHYSQ 271	PHYS 204
Fourth Year	
CU ME 358	PS ED 477 or 495
CU ME 359	
CU ME 364 or 368	
Option in education or CU ME 369	ENPRQ 354
ENPRQ 352	ENPRQ 355
ENPRQ 353	ENPRQ 356
Fifth Year	
FO ED 401	ADMSC 401
Physical Science (300-level)	Physical Science (300-level)
Physical Science (300-level)	Physical Science (300-level)
Science minor	Science minor
Science minor (300-level)	Science minor (300-level)

183.6.3 Program Requirements

(1) To obtain both the BEd degree and the BSc degree, students must successfully complete 150 units of course weight as follows:

a. Francophone Education in minority settings: 72 units of course weight in science, 54 units of course weight in education and 24 units of course weight in French.

Specialization (Science) — 36 units of course weight
Minor in Science — 24 units of course weight
Minor in French — 24 units of course weight
Computing Science — 3 units of course weight
History or Philosophy of Science — 3 units of course weight
Options (Science) — 6 units of course weight
Education courses — 54 units of course weight

b. French Immersion Education: 72 units of course weight in science, 51 units of course weight in education and 27 units of course weight in French.

Specialization (science) — 36 units of course weight
Minor in science — 24 units of course weight
Minor in French — 27 units of course weight
Computing Science — 3 units of course weight
History or Philosophy of Science — 3 units of course weight
Options (science) — 6 units of course weight
Education courses — 51 units of course weight

(2) Normally, a maximum of 48 units of course weight at the junior level is permitted in the combined program.

(3) Students must successfully complete a minimum of 12 units of course weight at the 300-level in the specialization and, in addition, a minimum of six units of course weight at the 300-level in the science minor.

(4) The following courses must be included in the French minor: LINGQ 200, FRANC 322, three units of course weight in culture/civilizaiton (see §182.8. (5)), and three units of course weight in literature (FRANC 325 or CA FR 350).

(5) Four of the five following courses must be included in the Education courses: CU ME 364, 365, 368, 369 or one education option.

(6) Students must successfully complete three units of course weight, among the following courses, in history or philosophy of science: BIOLE 315, HUME 420, PHILE 364, or 386.

(7) Normally at least 30 units of course weight at the junior-level must be successfully completed before students may register in senior-level courses.

(8) In order to be admitted with advanced credits in the program, students must normally possess a Grade Point Average of at least 5.5.

(9) To continue in the combined BEd/BSc program requires a Grade Point Average of at least 5.5. Students who do not meet this requirement must withdraw from the combined program and may apply for admission to either a BEd program or a BSc program if eligible.

(10) To obtain both the BEd and BSc degrees, a Grade Point Average of 5.5 must be attained in all courses for which a mark is granted and in all the specialization courses in science.

(11) To be recommended for the Interim Professional Certificate, students must obtain a Grade Point Average of at least 5.0 in all compulsory professional courses.

(12) Students who receive a failing grade in Phase II or Phase III courses will not be allowed to register in any further Education Practicum courses at Faculté Saint Jean and will be required to withdraw from the program.

(13) Students who withdraw from Phase II or Phase III courses must have the approval of the Coordinator of the Education program to re-register for these courses.

183.7 The Degree of Bachelor of Science

183.7.1 General Program (Degree Code SA92)

The BSc General program is designed to provide students with a diversified education in more than one branch of study and includes a major and a minor Subject or Area of Concentration, each of which must be in Science. In addition t

concentration principal et secondaire, dont les deux doivent être en sciences. En
us de conduire à un diplôme général de BSc, ce programme permet le transfert
suite dans des programmes de "Specialization and Honors", pour lesquels il n'y a
s d'admission au niveau de la première année. Les étudiants inscrits dans le
ogramme devront consulter la description voulue dans l'annuaire pour le pro-
amme particulier qui les intéresse et choisir soigneusement les cours de base de
emière année conformément aux exigences du programme en question. Pour
mpléter son programme, un étudiant doit inclure un certain nombre de cours
erts par la Faculté des sciences lesquels sont enseignés en anglais. Le schéma
pe de ce programme est le suivant:

oie: Intermédiaire

emière année
ançais 160
ançais 261 et 1 option
ience
ience
ience

euxième année
ançais 262/322
glais
ience
ience
ience

oisième année
otion culture et civilisation (voir §182.8(5)) et 1 option senior
ience
ience
ience
otion

uatrième année
ience
ience
ience
otion
otion

oie: Avancée

emière année
ançais 165/166
ience
ience
ience
otion

euxième année
ançais 267/322
glais
ience
ience
ience

oisième année
otion culture et civilisation (voir §182.8(5)) et 1 option senior
ience
ience
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otion

uatrième année
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programme général est soumis aux règlements suivants:

Pour obtenir un diplôme de BSc général, un étudiant doit réussir un total de 120 crédits. L'équivalent d'au moins 72 crédits et d'au plus 102 crédits doit être en Sciences. L'équivalent d'au moins 30 crédits et d'au plus 48 crédits doit être en Arts dont FRANC 322 et un cours de trois crédits parmi l'ensemble des cours énumerés à l'article §182.8(5)b. sont obligatoires.

Chaque étudiant doit avoir une matière ou un domaine de concentration principal et une matière ou un domaine de concentration secondaire, et les deux doivent être en Sciences. L'équivalent d'un minimum de 36 crédits et d'un maximum de 48 est nécessaire dans la matière ou le domaine de concentration principal et cela ne doit pas comprendre plus que l'équivalent de 18 crédits de niveau "junior". L'équivalent d'un minimum de 24 crédits et d'un maximum de 36 est nécessaire dans la matière ou le domaine de concentration secondaire, et cela ne doit pas comprendre plus que l'équivalent de 12 crédits de niveau "junior".

Une matière de concentration se compose de cours provenant soit de Chimie, Physique, Mathématiques, Géographie, Géologie ou Psychologie. (La Biologie convient comme domaine - les Sciences biologiques - mais pas comme matière.)

Un domaine de concentration se compose de cours provenant d'un des cinq groupes suivants:

a. **Sciences biologiques:** Biochimie, Botanique, Entomologie, Génétique, Microbiologie, Pharmacologie, Physiologie, Zoologie et les cours intitulés Biologie.

b. **Sciences physiques:** Astronomie, Biochimie, Chimie, Géophysique, Physique mathématique, et Physique.

c. **Sciences mathématiques:** Informatique, Mathématiques, Statistique et Probabilités appliquées.

providing for a BSc General Degree, this allows for subsequent transfer to Specialization and Honors programs for which there is no first-year admission. Students enrolled in the General program who intend to transfer to another program should consult the appropriate Calendar description for the particular program of interest and carefully select their first-year core courses in accordance with the requirements of the specific program. It should be noted that this program requires that students include courses offered by the Faculty of Science which are available only in English. The basic outline of the program is as follows:

Route: Intermediate

First Year
Français 160
Français 261 and 1 option
Science
Science
Science

Second Year
Français 262/322
Anglais
Science
Science
Science

Third Year
Option culture and civilization (see §182.8(5)) and 1 senior option
Science
Science
Science
Option

Fourth Year
Science
Science
Science
Option
Option

Route: Advanced

First Year
Français 165/166
Science
Science
Science
Option

Second Year
Français 267/322
Anglais
Science
Science
Science

Third Year
Option culture and civilization (see §182.8(5)) and 1 senior option
Science
Science
Science
Option

Fourth Year
Science
Science
Science
Option
Option

The following regulations govern the General program:

(1) To obtain a BSc General Degree a student must receive credit in 120 units of course weight. At least 72 and not more than 102 units of course weight must be in Science. At least 30 and not more than 48 units of course weight must be in Arts among which FRANC 322 and one option from the list contained in §182.8(5)b. are required.

(2) Each student must complete a major and a minor Subject or Area of Concentration, each of which must be in Science. A minimum of 36 and a maximum of 48 units of course weight is required in the major Subject or Area of Concentration, with no more than 18 at the junior level. At least 24 and not more than 36 units of course weight are required in the minor Subject or Area of Concentration, with no more than 12 at the junior level.

A Subject of Concentration consists of courses taken from either Chemistry, Physics, Mathematics, Geography, Geology, or Psychology. (Biology is appropriate as an area, not as a subject.)

An Area of Concentration consists of courses taken from one of the five following groups:

a. **Biological Sciences:** Biochemistry, Botany, Entomology, Genetics, Microbiology, Pharmacology, Physiology, Zoology, and courses titled Biology.

b. **Physical Sciences:** Astronomy, Biochemistry, Chemistry, Geophysics, Mathematical Physics, and Physics.

c. **Mathematical Sciences:** Computing Science, Mathematics, Statistics, and Applied Probability.

d. **Sciences de la terre:** Cartographie, Géographie, Géologie, Géophysique et Météorologie.

e. **Sciences cognitives:** Linguistique et Psychologie.

Consulter l'horaire pour les cours offerts dans les domaines ci-haut mentionnés.

Les cours d'une matière de concentration principale ou secondaire ne peuvent pas être inclus parmi les cours qui sont employés pour satisfaire aux exigences d'un domaine de concentration principal ou secondaire, par exemple, les cours de mathématiques ne peuvent pas être employés dans une matière de concentration principale ou secondaire si le domaine de concentration principal ou secondaire comprend des cours de mathématiques.

(3) Le programme général se caractérise par une base de cours dont les suivants sont obligatoires:

a. FRANC 322 et trois crédits en culture/civilisation. (Voir §182.8(5)).

b. Un cours de six crédits choisi parmi les cours "junior" d'anglais (normalement en deuxième année).

c. six crédits parmi les cours "junior" suivants: Informatique, Mathématiques ou Statistique et Probabilités appliquées.

d. six crédits de niveau "junior" de Chimie ou de Physique.

e. six crédits parmi les cours "junior" suivants: Biologie, Entomologie, Génétique, Géographie, Géologie, Psychologie ou Zoologie.

(4) Normalement un étudiant doit réussir au moins l'équivalent de 30 crédits de niveau "junior" avant de pouvoir s'inscrire à des cours au niveau "senior" (à l'exception de FRANC 261).

(5) On ne peut pas prendre plus que l'équivalent de 42 crédits au niveau "junior".

(6) Chaque étudiant doit réussir l'équivalent d'un minimum de 12 crédits au niveau 400 dans sa matière ou son domaine de concentration principal et en plus l'équivalent d'au moins six crédits au niveau 400 dans sa matière ou son domaine de concentration secondaire.

(7) Un maximum de 12 crédits peut être suivi dans des facultés autres que la Faculté des Arts ou la Faculté des Sciences. Ces cours seront considérés en tant qu'options et ne seront inclus ni dans la matière ou domaine de concentration principal ni dans la matière ou le domaine de concentration secondaire. Ces cours ne pourront figurer parmi les 30 crédits requis dans les Arts.

183.7.2 Niveau académique et diplômes (SA92)

Les règlements suivants s'appliquent aux programmes généraux:

(1) Pour obtenir un diplôme de BSc général, il faut avoir une moyenne d'au moins 5,5 pour l'équivalent des 60 derniers crédits comptant pour l'obtention du diplôme. De plus, il faut avoir une moyenne d'au moins 5,5 dans tous les cours de la matière ou du domaine principal de concentration.

(2) Un étudiant peut prendre plus de quatre ans pour obtenir un diplôme, ou remplir les conditions requises en un temps plus court, en suivant des cours au premier ou au deuxième semestre de l'intersession.

(3) Le diplôme de BSc général avec la mention "distinction" est décerné à un étudiant s'il a obtenu une moyenne d'au moins 7,5 dans l'équivalent des 60 derniers crédits à la condition que l'étudiant ait suivi 30 crédits pendant chaque session d'hiver de ses deux dernières années.

Il y a des variantes parmi les règlements des différents programmes. Les règlements de la Faculté Saint-Jean sont les mêmes que ceux de la Faculté des Sciences. On trouvera ces règlements à la §193 de l'annuaire de l'Université.

Période de transition

Depuis septembre 1988, tous les nouveaux candidats au programme du BSc Général à la Faculté Saint-Jean, avec ou sans équivalences universitaires, sont admis au programme de quatre ans. Ces étudiants devront remplir les conditions requises de ce programme.

Les étudiants qui ont commencé le programme du BSc de trois ans avant septembre 1988, à l'Université de l'Alberta (ou dans un établissement avec lequel l'université a des ententes de transfert) peuvent poursuivre le programme alors en vigueur. Ces étudiants devront remplir les conditions requises du diplôme de BSc général de trois ans le ou avant le 30 avril 1995. Ces étudiants peuvent faire une demande pour être admis au programme de quatre ans. Aucune demande pour transférer du programme de quatre ans au programme de trois ans ne sera acceptée.

183.7.3 Programme général du BSc de 3 ans (programme SA93)

Le programme général pour l'étude des Sciences permet à l'étudiant d'obtenir une formation pluridisciplinaire au terme d'un programme de trois ans.

Le programme est soumis aux règlements suivants:

(1) Pour obtenir un diplôme de BSc général, un étudiant doit réussir 90 crédits ou l'équivalent. Un minimum de 48 et un maximum de 72 crédits ou l'équivalent doivent être des cours de sciences, et un minimum de 18 et un maximum de 42 crédits ou l'équivalent, doivent être des cours d'Arts.

(2) Lors de l'inscription à la deuxième année de son programme, chaque étudiant doit déclarer les matières de ses concentrations principale et secondaire.

d. **Earth Sciences:** Cartography, Geography, Geology, Geophysics, ar Meteorology.

e. **Cognitive Sciences:** Linguistics and Psychology

For courses offered in the above areas of concentration, please consult th timetable.

Courses in a major or a minor subject of concentration may not be include among courses which are used to meet requirements for either a major minor area of concentration, e.g. courses in Mathematics cannot be used a major or minor subject of concentration if the major or minor area concentration includes courses in Mathematics.

(3) The General Program is characterized by a Core of courses, which must includ the following:

a. FRANC 322 and three units of course weight in culture/civilization. (See §182.8(5)).

b. Six units of course weight from among junior courses in English (normally the second year).

c. Six units of course weight from among junior courses in Computing Scienc Mathematics, or Statistics, and Applied Probability.

d. Six units of course weight from among junior courses in Chemistry Physics.

e. Six units of course weight from among junior courses in Biology, Entomolog Genetics, Geography, Geology, Psychology, or Zoology.

(4) Normally at least 30 units of course weight at the junior level must successfully completed before students may register in senior-level cours (except FRANC 261).

(5) Not more than 42 units of course weight can be taken at the junior level.

(6) Students must successfully complete a minimum of 12 units of course weight the 400-level in the major Subject or Area of Concentration and, in addition, least six units of course weight at the 400-level in the minor Subject or Area Concentration.

(7) A maximum of 12 units of course weight may be taken from Faculties other th Science or Arts. Such subjects are considered as approved options and are n included as part of the major or minor Subject or Area of Concentration n towards the minimum requirement of 30 units of course weight in Arts.

183.7.2 Academic Standing and Graduation (SA92)

The following regulations govern General Programs:

(1) To obtain a BSc General degree, a grade point average of at least 5.5 must b attained on the last 60 units of course weight credited to the degree. Moreov a grade point average of at least 5.5 must be attained in all courses in the maj Subject or Area of Concentration.

(2) Students may proceed to a degree over a longer period than four years, or me the requirements in a shorter time by attending Intersession, first- and/ second-term.

(3) BSc General degrees with Distinction are awarded if students obtain a gra point average of not less than 7.5 over the last 60 units of course weight a provided students have completed a full academic load (30 units of cour weight) during each Winter Session of the last two years.

Further regulations vary from program to program. Faculté Saint-Jean regulatio are the same as those of the Faculty of Science, and are therefore giv together with the details of the program to which they apply in §193 of t University Calendar.

Transition Period

Effective September, 1988, all new registrants in the BSc General program Faculté Saint-Jean, with or without post-secondary transfer credit, will be admitt into the four-Year BSc General program. Such students will be required to meet t requirements of this program.

Students who, prior to September, 1988, entered the BSc General Program the University of Alberta (or an institution with which the University of Alberta has transfer agreement) may continue under the program requirements then in effe Such students must complete the three-year BSc General Degree requirements or before April 30, 1995. Such students may apply for admission into the four-ye BSc General Program. However, applications for transfer from the four-year B General Program to the three-year BSc General Program will not be accepted.

183.7.3 General Program: Three-Year BSc (Degree Code SA93)

General programs in Science are designed to enable students to obt diversified training in more than one branch of study within the limits of a three-ye program.

The following regulations govern the programs:

(1) To obtain a general BSc degree students must complete 90 units of cour weight or the equivalent. Of these at least 48, and no more than 72 or t equivalent must be Science courses, and at least 18 and no more than 42 or t equivalent, must be Arts courses.

(2) Students registering in the second year of their program must declare t subjects of their principal and second concentrations.

Tout étudiant doit prendre un minimum de 24 crédits et un maximum de 36 ou l'équivalent, dans la matière de concentration principale, qui doit faire partie du domaine des Sciences, et un minimum de 18 crédits et un maximum de 24 ou l'équivalent, dans la matière secondaire qui doit également faire partie des Sciences. Dans chacune de ces concentrations, un maximum de 12 crédits ou l'équivalent peut être du niveau "junior.'.

Normalement un maximum de 42 crédits "junior" ou l'équivalent est autorisé dans le programme général.

Au maximum, l'équivalent de six crédits approuvé par le Doyen peut être suivi dans des facultés autres que celles des Arts et des Sciences. De tels cours sont considérés comme des "options approuvées" et ne peuvent être inclus dans le minimum de 18 crédits ou l'équivalent en Arts, ni dans le minimum des 48 crédits ou l'équivalent en Sciences.

3.7.4 Niveau académique et diplômes (SA93)

Les programmes généraux sont soumis aux règlements suivants:

Pour obtenir un diplôme de BSc général, il faut obtenir une moyenne d'au moins 5,5 dans les 60 derniers crédits ou l'équivalent comptant pour l'obtention du diplôme. En outre, il faut obtenir une moyenne d'au moins 5,5 dans tous les cours de la concentration principale.

Le Doyen peut autoriser un étudiant à poursuivre ses études en vue d'un diplôme pendant une période excédant les trois ans ou à remplir les conditions requises en moins de trois ans en prenant des cours au premier ou au deuxième semestre de l'intersession, ou bien en prenant des cours supplémentaires durant le semestre d'hiver.

Il y a des variantes parmi les règlements des différents programmes. Les ements de la Faculté Saint-Jean sont les mêmes que ceux de la Faculté des nces. On trouvera ces règlements à la §193 de l'annuaire de l'Université.

3.8 Options

Le terme "option" désigne le cours qu'un étudiant peut choisir librement s'il a les requis nécessaires. "Approved option" est une option autorisée par le départe- t qui dirige le programme de l'étudiant.

4 Description des cours

4.1 Renseignements généraux

La description des cours correspond à la langue d'enseignement. C'est ainsi que la cription du cours GEOGE 130 (Géographie 130) est donnée en français parce qu'il enseigné en français. Par contre, ANGL 100 (Anglais 100) est décrit et enseigné en ais.

Chaque cours est représenté par une abréviation et un numéro.

Les cours numérotés 100 à 199 sont des cours "junior" suivis normalement par tudiants de la première année, et de 200 à 499, les cours "senior" qui sont suivis s la première année. Les cours au-dessus de 500 sont habituellement réservés études supérieures.

Après le titre du cours, le signe "★" indique la valeur de ce cours et le chiffre sert rdinateur pour calculer la moyenne finale. Le cours d'une année académique ou s complet est suivi du chiffre ★6 et le demi-cours du chiffre ★3. La valeur de ains cours qui impliquent la recherche varie suivant la durée et la difficulté des aux.

Les trois chiffres placés entre parenthèses indiquent le nombre d'heures par aine et paraissent dans l'ordre suivant:

Le premier chiffre indique les heures de cours.

Le deuxième chiffre indique: les heures de séminaire (s); les heures de démonstra- (d); les heures de clinique (c); les heures de laboratoire combiné avec un cours (L).

Le troisième chiffre indique les heures de laboratoire.

Exemple: (3-0-3) signifie trois heures de cours, pas de séminaire et trois heures aboratoire par semaine.

Demi-cours: Certains cours ne se donnent que pendant un semestre; deux de cours sont considérés comme un cours complet. S'il s'agit d'une option, deux i-cours différents pourront être associés pour remplir les conditions nécessaires.

Cours à inscriptions limitées: Dans certains cours, l'effectif des classes doit réduit pour des raisons académiques. Ces cours figureront dans l'horaire sous re "cours à inscriptions limitées". Si le nombre d'inscriptions pour un tel cours est grand, les étudiants dont le programme n'exige pas ledit cours devront annuler inscription.

Le fait que la description d'un cours figure dans cet annuaire n'implique nécessairement que ce cours sera effectivement donné pendant la session démique à venir. Toute information relative aux cours qui seront donnés, noms des professeurs qui les assureront, ou à tout autre détail, sera nie par le bureau du doyen de la faculté.

gences physiques de certains cours universitaires:

L'Université se doit de pourvoir à l'éducation de tout étudiant académiquement ifié et offre des services spéciaux aux étudiants handicapés.

Cependant, certains cours demandent un niveau de compétence ou d'habileté sique afin d'atteindre les objectifs académiques. En cas de doute, prière de se eigner auprès du département concerné et du coordonnateur de "Disabled dent Services", Bureau du Doyen de "Student Services".

Les étudiants peuvent se voir refuser la permission de s'inscrire aux cours rts hors-campus étant donné qu'il est souvent impossible d'offrir les services ie nécessaires.

(3) Students must take at least 24 and no more than 36 units of course weight or the equivalent in the principal subject of concentration which must be one of the Sciences, and a minimum of 18 and a maximum of 24 or the equivalent in a second subject of concentration which must also be one of the Sciences. In each subject of concentration, no more than 12 units of course weight or the equivalent can be at the junior level.

(4) Normally no more than 42 junior units of course weight or the equivalent are permitted in the general program.

(5) Up to the equivalent of six units of course weight approved by the Dean may be taken from faculties other than Arts and Science. Such courses are considered as "approved options" and are not to be included either as part of the minimum of 18 units of course weight or the equivalent in the Arts or in the minimum of 48 units of course weight or the equivalent in Science.

183.7.4 Academic Standing and Graduation (SA93)

The following regulations govern General programs:

(1) To obtain a BSc General degree a grade point average of at least 5.5 must be obtained on the last 60 units of course weight or the equivalent credited to the degree. Moreover, a grade point average of at least 5.5 must be attained for all courses in the principal subject of concentration.

(2) The Dean may permit students to proceed to a degree over a longer period than three years, or to meet the requirements in a shorter time by attending Intersession or by taking extra courses during the Winter sessions.

Further regulations vary from program to program. Faculté Saint-Jean regulations are the same as those of the Faculty of Science, and are therefore given together with the details of the program to which they apply in §193 of the University Calendar.

183.8 Options

The term "option", where it appears in the programs, means a course freely chosen by students provided they have the necessary prerequisite. An "approved option" is an option approved by the department directing the program of the student concerned.

184 Details of Courses

184.1 General Information

The language (French or English) used in describing the course indicates the language of instruction. For example, GEOGE 130 (Géographie 130) is described in French because it is taught in French, whereas ANGL 100 (English 100) is described in English, because it is taught in English.

Each course is designated by its computer abbreviation and a number.

Courses numbered 100 to 199 are junior courses, normally taken by first-year undergraduates. Those numbered 200 to 499 are senior courses, normally taken after the first year. Courses numbered 500 and up are normally restricted to senior and graduate students.

Following the title of the course is the symbol ★ standing for "units of course weight", and a number indicating the weight of the course as used in computing grade point averages. An ordinary full-session course is weighted ★6. A single-term course is normally weighted ★3. Some courses involving research may vary in weight according to the length and difficulty of the research project.

The next three figures, enclosed in parentheses, indicate the hours of instruction required by the course in a week. They appear in the following order: the first position indicates lecture hours; the second position indicates: seminar hours (s), demonstration (d), clinic (c), or lecture-lab (L); and the third position indicates laboratory hours.

Example: (3-0-3) indicates three hours of lecture, no seminars, and three hours of laboratory per week.

Single-term courses: A number of courses are offered in one term only; two such courses are recognized as the equivalent of one full-session course. Where the requirement is for an option, any two single-term courses may be combined to meet the requirement.

Restricted Enrollment Courses: Classes in some courses must for academic reasons be restricted in size. Such courses will be labelled "restricted enrollment" courses in the timetable. If such a course is found to be over subscribed, students whose programs do not require that course may be required to delete it from their registration.

The appearance of a course description, in the following list does not constitute any guarantee that the course will actually be offered in the forthcoming session. Information as to which courses will be offered, the names of the instructors, and all further details must be sought from the Dean's office.

Physical Requirements for University Courses

The University has a commitment to the education of all academically qualified students and special services are frequently provided on campus to assist disabled students.

Nevertheless, some courses make certain unavoidable demands on students, with respect to the possession of a certain level of physical skill or ability, if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the Department concerned and the Disabled Student Services Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for all off-campus courses, instructors may be obliged to refuse registration in such courses.

Note: Depuis 1990-91, les numéros de certains cours au niveau du Baccalauréat à la Faculté Saint-Jean ont été changés. La liste suivante indique les changements en 1990-91:

ancien numéro	nouveau numéro	ancien numéro	nouveau numéro
ANGL 200	ANGL 100	GEOLE 202	GEOLE 102
ANGL 210	ANGL 110	GEOLE 203	GEOLE 103
ANGL 213	ANGL 113	HISTE 220	HISTE 120
ANTHE 201	ANTHE 101	INFOR 261	INFOR 161
ANTHE 210	ANTHE 110	LINGQ 200	LINGQ 101
ADRAM 201	ADRAM 102	MATHQ 202	MATHQ 113
ADRAM 202	ADRAM 101	MATHQ 203	MATHQ 114
ADRAM 243	ADRAM 143	MATHQ 204	MATHQ 115
ADRAM 249	ADRAM 149	MATHQ 221	MATHQ 120
BIOLE 200	BIOLE 100	MATHQ 222	MATHQ 121
BIOLE 210	BIOLE 110	MUSIQ 200	MUSIQ 100
BIOLE 297	BIOLE 197	MUSIQ 206	MUSIQ 101
CHIM 200	CHIM 100	MUSIQ 240	MUSIQ 140
CHIM 202	CHIM 104	MUSIQ 250	MUSIQ 150
CHIM 250	CHIM 160	MUSIQ 251	MUSIQ 151
ECONE 201	ECONE 101	PHILE 221	PHILE 121
ECONE 202	ECONE 102	PHILE 240	PHILE 140
ENTIE 220	ENTIE 120	PHYSQ 241	PHSYQ 141
ECLSS 202	ECLSS 102	PHYSQ 243	PHYSQ 143
ET RE 202	ET RE 102	PSYCE 260	PSYCE 104
FRANC 210	FRANC 110	PSYCE 261	PSYCE 105
FRANC 213	FRANC 113	SC PO 201	SC PO 101
FRANC 214	FRANC 114	SC PO 202	SC PO 102
GEOGE 230	GEOGE 130	SOCIE 200	SOCIE 100
GEOGE 231	GEOGE 131	SOCIE 201	SOCIE 101
GEOGE 250	GEOGE 150	SOCIE 203	SOCIE 102
GEOGE 251	GEOGE 151	ZOOLE 220	ZOOLE 120

Note: La liste suivante indique les changements en 1991-92:

ancien numéro	nouveau numéro	ancien numéro	nouveau numéro
ARTSC 300	ARTSC 200	GEOGE 360	GEOGE 260
BIOLE 301	BIOLE 201	GEOGE 381	GEOGE 281
BIOLE 302	BIOLE 202	GEOGE 382	GEOGE 282
BIOLE 415	BIOLE 315	GEOGE 449	GEOGE 349
CA FR 424	CA FR 360	HISTE 301	HISTE 204
CA FR 425	CA FR 460	HISTE 318	HISTE 217
CA FR 451	CA FR 370	HISTE 360	HISTE 260
CHIM 302	CHIM 204	HISTE 361	HISTE 261
CHIM 350	CHIM 260	LINGQ 101	LINGQ 200
ET RE 331	ET RE 231	LINGQ 430	LINGQ 300
ET RE 348	ET RE 248	LIN R 420	LIN R 320
ET RE 349	ET RE 249	MATHQ 302	MATHQ 214
ET RE 350	ET RE 250	MATHQ 303	MATHQ 215
ET RE 361	ET RE 261	MUSIQ 203	MUSIQ 103
ET RE 363	ET RE 263	MUSIQ 306	MUSIQ 201
FRANC 110	FRANC 160	MUSIQ 315	MUSIQ 215
FRANC 113	FRANC 165	MUSIQ 340	MUSIQ 240
FRANC 114	FRANC 166	PHYSQ 371	PHYSQ 271
FRANC 310	FRANC 261	PHYSQ 394	PHYSQ 294
FRANC 315	FRANC 262	PHYSQ 401	PHYSQ 301
FRANC 316	FRANC 271	PSYCE 341	PSYCE 241
FRANC 319	FRANC 267	PSYCE 352	PSYCE 372
FRANC 321	FRANC 272	PSYCE 353	PSYCE 223
FRANC 324	FRANC 395	PSYCE 360	PSYCE 208
FRANC 341	FRANC 273	PSYCE 361	PSYCE 281
FRANC 343	FRANC 274	PSYCE 375	PSYCE 275
FRANC 362	FRANC 433	PSYCE 383	PSYCE 233
FRANC 420	FRANC 470	PSYCE 489	PSYCE 339
FRANC 421	FRANC 431	SOCIE 360	SOCIE 260
FRANC 422	FRANC 432	SOCIE 361	SOCIE 261
FRANC 425	FRANC 475		

184.2 Administration scolaire et média/ Educational Administration and Media

ADMSC 301 Résultats de la planification, de l'évaluation et de la gestion dans les écoles
★3 (3-0-0).

MDAED 351 Introduction à la technologie éducationnelle et aux medias
★3 (3-0-1).

ADMSC 401 Le rôle du professeur
★3 (3-0-0). Etude de l'organisation de l'éducation publique en Alberta et de certains problèmes critiques en gestion scolaire. Ces problèmes peuvent varier selon le niveau et l'intérêt des étudiants.

184.3 Andragogie/Andragogy

ANDR 510 Formation à la méthodologie de l'andragogie
★3 (1-2s-0). Les grandes tendances de l'andragogie. Les problèmes de communication interindividuelle et de groupe. La communication pédagogique en tant que processus spécifique. Les attitudes du formateur et leurs effets sur les apprenants. Les grandes familles de méthodes pédagogiques: de la directivité à la créativité. Note: ce cours est destiné aux détenteurs d'un diplôme du premier cycle.

ANDR 520 Formation expérientielle à la dynamique de groupe
★3 (1-2s-0). Les concepts de groupe, d'organisation et d'institution. La dynamique de groupe: définition, ses différentes étapes, son utilisation dans le groupe de tâche et d'apprentissage. Prérequis: ANDR 510 ou l'accord du Doyen.

Note: Effective 1990-91 Faculté Saint-Jean renumbered some of its undergraduate courses. The following table lists the changes in 1990-91.

Old	New	Old	New
ANGL 200	ANGL 100	GEOLE 202	GEOLE 102
ANGL 210	ANGL 110	GEOLE 203	GEOLE 103
ANGL 213	ANGL 113	HISTE 220	HISTE 120
ANTHE 201	ANTHE 101	INFOR 261	INFOR 161
ANTHE 210	ANTHE 110	LINGQ 200	LINGQ 101
ADRAM 201	ADRAM 102	MATHQ 202	MATHQ 113
ADRAM 202	ADRAM 101	MATHQ 203	MATHQ 114
ADRAM 243	ADRAM 143	MATHQ 204	MATHQ 115
ADRAM 249	ADRAM 149	MATHQ 221	MATHQ 120
BIOLE 200	BIOLE 100	MATHQ 222	MATHQ 121
BIOLE 210	BIOLE 110	MUSIQ 200	MUSIQ 100
BIOLE 297	BIOLE 197	MUSIQ 206	MUSIQ 101
CHIM 200	CHIM 100	MUSIQ 240	MUSIQ 140
CHIM 202	CHIM 104	MUSIQ 250	MUSIQ 150
CHIM 250	CHIM 160	MUSIQ 251	MUSIQ 151
ECONE 201	ECONE 101	PHILE 221	PHILE 121
ECONE 202	ECONE 102	PHILE 240	PHILE 140
ENTIE 220	ENTIE 120	PHYSQ 241	PHSYQ 141
ECLSS 202	ECLSS 102	PHYSQ 243	PHYSQ 143
ET RE 202	ET RE 102	PSYCE 260	PSYCE 104
FRANC 210	FRANC 110	PSYCE 261	PSYCE 105
FRANC 213	FRANC 113	SC PO 201	SC PO 101
FRANC 214	FRANC 114	SC PO 202	SC PO 102
GEOGE 230	GEOGE 130	SOCIE 200	SOCIE 100
GEOGE 231	GEOGE 131	SOCIE 201	SOCIE 101
GEOGE 250	GEOGE 150	SOCIE 203	SOCIE 102
GEOGE 251	GEOGE 151	ZOOLE 220	ZOOLE 120

Note: The following table lists the changes in 1991-92.

Old	New	Old	New
ARTSC 300	ARTSC 200	GEOGE 360	GEOGE 260
BIOLE 301	BIOLE 201	GEOGE 381	GEOGE 281
BIOLE 302	BIOLE 202	GEOGE 382	GEOGE 282
BIOLE 415	BIOLE 315	GEOGE 449	GEOGE 349
CA FR 424	CA FR 360	HISTE 301	HISTE 204
CA FR 425	CA FR 460	HISTE 318	HISTE 217
CA FR 451	CA FR 370	HISTE 360	HISTE 260
CHIM 302	CHIM 204	HISTE 361	HISTE 261
CHIM 350	CHIM 260	LINGQ 101	LINGQ 200
ET RE 331	ET RE 231	LINGQ 430	LINGQ 300
ET RE 348	ET RE 248	LIN R 420	LIN R 320
ET RE 349	ET RE 249	MATHQ 302	MATHQ 214
ET RE 350	ET RE 250	MATHQ 303	MATHQ 215
ET RE 361	ET RE 261	MUSIQ 203	MUSIQ 103
ET RE 363	ET RE 263	MUSIQ 306	MUSIQ 201
FRANC 110	FRANC 160	MUSIQ 315	MUSIQ 215
FRANC 113	FRANC 165	MUSIQ 340	MUSIQ 240
FRANC 114	FRANC 166	PHYSQ 371	PHYSQ 271
FRANC 310	FRANC 261	PHYSQ 394	PHYSQ 294
FRANC 315	FRANC 262	PHYSQ 401	PHYSQ 301
FRANC 316	FRANC 271	PSYCE 341	PSYCE 241
FRANC 319	FRANC 267	PSYCE 352	PSYCE 372
FRANC 321	FRANC 272	PSYCE 353	PSYCE 223
FRANC 324	FRANC 395	PSYCE 360	PSYCE 208
FRANC 341	FRANC 273	PSYCE 361	PSYCE 281
FRANC 343	FRANC 274	PSYCE 375	PSYCE 275
FRANC 362	FRANC 433	PSYCE 383	PSYCE 233
FRANC 420	FRANC 470	PSYCE 489	PSYCE 339
FRANC 421	FRANC 431	SOCIE 360	SOCIE 260
FRANC 422	FRANC 432	SOCIE 361	SOCIE 261
FRANC 425	FRANC 475		

ANDR 551 Sujets choisis en éducation des adultes
★3 (3-0-0). Le contenu varie d'une année à l'autre. Note: ce cours est destiné aux détenteurs d'un diplôme du 1er cycle.

184.4 Anglais/English

Note: Un seul cours complet (ou 2 demi-cours) au niveau 100 peut être crédité pour le BA.

Note: Prérequis pour les cours au niveau 200: ANGL 100 ou ANGL 110.

ANGL 100 A Survey of English Literature from the Middle Ages to the Twentieth Century
★6 (3-0-0). A close study of representative masterpieces which demonstrate the development of the English literary tradition.

ANGL 110 English Literary Forms
★6 (3-0-0). This course combines an introduction to the various genres of English literature in prose and verse, including drama, through a close study of representative authors, both modern and traditional, with formal instruction in writing skills. One-third of the course is devoted to writing instruction.

ANGL 113 English as a Second Language
★6 (3-0-1). This course is designed to enable students to communicate in oral and written English. Work in a language laboratory is combined with a review of English grammar and study of English literature and text-book prose to aid students in achieving a greater proficiency in spoken and written English. Students must take a placement test (MELAB) in order to determine their level of proficiency and register in the proper course or section (see §182.5.2). The placement test (two hours

ration) will be given at the Faculté Saint-Jean in the first two days of the term. en only to students enrolled in one of Faculté Saint-Jean's programs. Note: ANGL 3 is not recognized by the Faculty of Arts as an acceptable substitute for ENGL 101.

GL 304 Folklore in Children's Literature in English
(3-0-0). An examination of the related fields of folklore and fantasy in children's rature in English. It deals with those elements of folklore, mythology and legend t have become a traditional part of children's literature and also includes certain dern adaptations and fantasies which have their origins in myth and folklore. te: Not to be taken by students with credit in ENGL 303.

GL 305 Classics of Children's Literature in English
(3-0-0). A representative sampling of classics of children's literature in English. a historical survey it will examine prevailing and changing attitudes towards ldren to provide a critical assessment of the ways in which various authors have cceeded in understanding and pleasing a particular audience. Note: Not to be en by students with credit in ENGL 303.

84.5 Anthropologie/Anthropology

NTHE 101 Introduction à l'anthropologie
3 (3-0-0). Une introduction à l'anthropologie par l'étude de concepts principaux et idées organisatrices tels que l'évolution humaine, l'apparition de la culture, rganisation sociale, les théories de la culture, les systèmes symboliques, la namique de la culture. Note: ce cours n'est pas accessible aux étudiants ayant ou stulant des crédits en ANTHE 202 ou 301.

NTHE 110 Ethnologie du sexe, de l'âge et du pouvoir
3 (3-0-0). Dans toute société, le statut social de l'individu et des groupes change cours du cycle de la vie. Ce cours examine comment l'âge et le sexe privilégient rôles et le statut social dans des sociétés différentes.

NTHE 301 Concepts et conflits en anthropologie
3 (3-0-0). Une introduction à l'anthropologie par l'étude de concepts choisis tels e l'évolution de l'homme, l'adaptation culturelle, la structure sociale, l'individu et la ciété, (collectivité), le symbole et le signifié, la production et l'échange, le angement culturel. Note: ce cours n'est pas accessible aux étudiants de 1ère née ou à ceux ayant des crédits en ANTHE 101 ou 202.

NTHE 307 Introduction à l'anthropologie sociale et culturelle
3 (3-0-0). Etude comparative de la société et de la culture de l'homme, en rticulier dans les communautés non-occidentales, en insistant sur la famille, la ucture sociale, l'économie, les institutions politiques et la religion; les procédures changement. Prérequis: ANTHE 101 ou 301.

NTHE 308 Introduction à l'anthropologie linguistique
3 (3-0-0). Etude anthropologique du langage et de la communication. Aperçu bide des méthodes d'enquête sur le terrain et des méthodes analytiques et théorie l'anthropologie linguistique. Prérequis: ANTHE 101 ou 301.

NTHE 309 Une introduction à l'anthropologie physique
3 (3-0-0). Une étude des théories et des données principales sur l'évolution de omme. Les sujets abordés: l'étude des primates, l'ostéologie, la paléontologie et s variations dans les populations modernes. Prérequis: ANTHE 101 ou 301.

NTHE 320 Ethnologie de la religion
3 (3-0-0). Une introduction à l'étude comparative des religions et des phénomènes i s'y rattachent; tels la magie, les tabous, le chamanisme et la sorcellerie. Des emples ethnographiques sont utilisés pour appuyer une analyse des liens entre nsées et rites religieux et autres aspects de la vie sociale.

NTHE 325 Anthropologie et problèmes mondiaux
3 (3-0-0). Approche anthropologique de la culture capitaliste, de la structure ciale, des rapports colonialistes et néo-colonialistes, et la naissance de nouvelles ciétés. Prérequis: un cours d'introduction en anthropologie ou en sociologie.

NTHE 392 Le comportement des primates
3 (3-0-0). Les études du terrain des primates non-humains. Les sujets abordés: le stème social, le comportement et l'écologie, la communication, le développement cial et autres sujets pertinents.

NTHE 410 Sexe et statut social: approche comparative
3 (3-0-0). Le statut social des sexes comme phénomène biologique et culturel. Le atut social des femmes dans diverses sociétés. Prérequis: un cours de niveau nior en anthropologie.

NTHE 418 Anthropologie politique
3 (3-0-0). Introduction à l'anthropologie politique moderne, l'accent étant mis sur la scription et l'analyse ethnographiques et les problèmes de pluralisme, de stratifi-tion et de mobilisation des masses rurales. Prérequis: ANTHE 307 ou l'accord du yen.

NTHE 431 Plurilinguisme
3 (3-0-0). L'étude de communautés plurilingues. Prérequis: ANTHE 308 ou ccord du Doyen.

NTHE 484 Choix de sujets en anthropologie
3 (0-3s-0). Prérequis: accord du Doyen.

84.6 Art dramatique et Art de la scène/Drama and Scenic Arts

DRAM 101 Introduction à l'art théâtral
3 (3-0-1). Les origines et le développement de l'art théâtral, notions de base sur la oduction d'un spectacle de théâtre: de la conception à la réalisation. Analyses tiques de pièces auxquelles les étudiants assistent.

DRAM 102 Analyse de l'art dramatique
3 (3-0-0). Analyse critique de textes choisis et son application dans la recherche solutions créatrices concernant leur réalisation. Analyse des activités artistiques mplémentaires dans le cadre du théâtre: la composition du texte, le jeu des teurs, la réalisation technique et la mise en scène.

ADRAM 143 Amélioration de la voix et de la diction
★3 (0-6L-0). Exercices pour améliorer la voix et la diction; introduction à la communication orale: narration, art oratoire, interprétation. L'efficacité et la spontanéité du langage.

ADRAM 149 Introduction au procédé dramatique
★3 (2-3L-0). Elocution et mouvement, improvisation avec insistance sur le développement imaginatif, introduction au jeu et à la forme théâtrale; l'expression verbale et non-verbale. Note: ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour ADRAM 251, 259, ou 350.

ARTSC 200 Appréciation des arts de la scène
★6 (3-0-1). Introduction à l'histoire des arts de la scène, incursion dans les spectacles de: théâtre, mime, masques, ombres, marionnettes, opéra-musical, ballet-danse, cirque, etc. Evaluation critique des spectacles auxquels les étudiants assistent.

ADRAM 321 Créativité et théâtre pour jeunes
★3 (2-3L-0). Approche pratique et théorique au développement des ressources humaines par l'art dramatique (de la conception à la réalisation d'un projet théâtral) tenant compte des enfants et des jeunes. Prérequis: ADRAM 101, 102, 149, 251 ou l'accord du doyen.

184.7 Biologie/Biology

BIOLE 100 Introduction aux systèmes biologiques
★3 (3-0-3). Un compte rendu des organismes et de leurs interactions avec l'environnement physique et biologique: l'origine des cellules, le darwinisme et l'évolution par la sélection naturelle, la spécialisation, la diversité dans les systèmes biologiques, les populations, les communautés, les écosystèmes et leur place dans la biosphère. Prérequis: Biologie 30. Remarque: Ce cours ne pourra être crédité aux étudiants ayant déjà obtenu des crédits en BIOLE 298.

BIOLE 110 Biologie et le monde moderne
★3 (3-0-3). Base biologique de l'écologie: origines de l'homme, son évolution; particularités des populations croissantes; place de l'homme et l'influence de la biosphère; projection concernant l'avenir de l'homme. Pas de prérequis.

BIOLE 197 L'hérédité
★3 (3-0-3). La base cellulaire et moléculaire de la transmission des caractères héréditaires. L'hérédité mendélienne et sa base cytologique; la génétique microbienne; l'hérédité cytoplasmique, le linkage et la carte génétique; l'ADN en tant que matériel génétique; l'effet des gènes; le code génétique. Prérequis: Biologie 30.

BIOLE 201 Biologie cellulaire
★3 (3-0-3/2). Ultrastructure et métabolisme des cellules. Energie dans les systèmes biologiques; protosynthèse; respiration cellulaire; contractilité; croissance et duplication des cellules. Prérequis: BIOLE 197. Prérequis ou co-requis: CHIM 160 ou 260.

BIOLE 202 Biologie du développement
★3 (3-0-3). Les organismes complexes en développement. Le but de ce cours est d'identifier certains procédés de développement communs aux plantes et aux animaux. Une attention particulière sera portée sur les interactions cellulaires qui déterminent la survie de la cellule, l'activation et la désactivation des gènes, le fonctionnement des gènes et la sélection des structures. Le cours concluera par un examen de ces procédés en relation avec le vieillissement et le cancer. Remarque: Le cours BIOLE 201 est fortement recommandé avant de suivre le cours 202.

BIOLE 315 Histoire et théorie de la biologie
★3 (3-0-0). Aperçu des découvertes biologiques des temps les plus reculés jusqu'à maintenant et des principales idées nées des sciences de la vie ou les influençant, et ce par rapport aux événements sociaux, historiques et culturels. Recommandé aux étudiants qui se spécialisent dans les sciences biologiques mais accessible à tous les étudiants qui s'intéressent à l'histoire de la science et de son importance dans le développement de la culture. Prérequis: BIOLE 100, ou BIOLE 197, ou ZOOLE 120, ou BOT 105.

184.8 Botanique/Botany

BOTQ 199 Biologie des plantes
★3 (3-0-3). Une introduction à la biologie des plantes en mettant l'accent sur les relations entre les formes et leurs fonctions, et les potentialités de cette science. Les sujets suivants seront introduits: la structure cellulaire végétale; les tissus végétaux et leurs fonctions; la classification des plantes et les fondements des groupements importants; l'importance des plantes pour la vie humaine; le métabolisme des plantes et plus particulièrement les problèmes hydriques, nutritifs et énergétiques; la croissance et le développement des plantes, leur reproduction. Prérequis: Biologie 30. Ce cours n'est pas accessible aux étudiants ayant des crédits en BIOLE 296, 299, ou INT D 230.

184.9 Canadien-Français/French-Canadian

CA FR 320 Civilisation canadienne-française I
★3 (3-0-0). La civilisation et la culture du Canada français des origines à la Confédération. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FR CA 222 à la Faculté des Arts.

CA FR 322 Civilisation canadienne-française II.
★3 (3-0-0). La civilisation et la culture du Canada français de la Confédération à nos jours. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FR CA 223 à la Faculté des Arts.

CA FR 350 Panorama de la littérature canadienne-française
★3 (3-0-0). La littérature canadienne-française, des origines à nos jours, vue à travers un choix d'oeuvres dominantes marquant les diverses périodes de son évolution.

CA FR 360 Littérature canadienne-française hors du Québec
★3 (3-0-0). L'étude de l'expression littéraire canadienne-française hors du Québec. Prérequis: CA FR 350 ou FRANC 325.

CA FR 370 Le roman canadien-français du XXe siècle
★3 (3-0-0). Le roman canadien-français depuis la génération de 1890 jusqu'à la naissance du nouveau roman, vu à travers les plus grands romanciers de cette période. Prérequis: CA FR 350 ou FRANC 325. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FR CA 451 à la Faculté des Arts.

CA FR 450 Littérature canadienne-française du XIXe siècle.
★3 (3-0-0). Le roman et la poésie considérés sous l'angle des thèmes dominants. Prérequis: CA FR 350 ou FRANC 325. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FR CA 450 à la Faculté des Arts.

CA FR 460 Critique littéraire et sociale du Québec
★3 (3-0-0). Etudes des relations entre la pensée sociale et la littérature. Prérequis: un cours de littérature ou de civilisation canadienne-française.

CA FR 465 La poésie canadienne-française du XXe siècle
★3 (3-0-0). L'évolution de la poésie canadienne-française de Saint-Denys Garneau à l'époque contemporaine. Prérequis: CA FR 350 ou FRANC 325. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FR CA 465 à la Faculté des Arts.

CA FR 466 Le théâtre canadien-français du XXe siècle
★3 (3-0-0). L'évolution du théâtre canadien-français de Gratien Gélinas à l'époque contemporaine. Prérequis: CA FR 350 ou FRANC 325. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FR CA 466 à la Faculté des Arts.

CA FR 499 Etudes dirigées
★3 (3-0-0). Cours destiné à permettre aux étudiants d'approfondir un sujet de leur choix en littérature canadienne-française. Prérequis: CA FR 350 ou FRANC 325 et 2 demi-cours de littérature canadienne-française.

184.10 Chimie/Chemistry

CHIM 100 Introduction à la chimie, niveau universitaire
★6 (3-1s-3). Eléments de la liaison et de la structure; équilibre chimique et phasé; chimie de solution; thermo-chimie, électrochimie et cinétique chimique, en relations avec la chimie inorganique. Prérequis: Chimie 30 ou l'équivalent.

CHIM 104 Introduction à la chimie, niveau universitaire
★6 (3-1s-3). Semblable à CHIM 100 mais conçu pour les étudiants qui suivent, ou ont suivi, un cours de mathématiques au niveau universitaire. Prérequis: Chimie 30, ou l'équivalent. Prérequis ou co-requis: MATHQ 113 ou 114 ou l'équivalent.

CHIM 160 Chimie organique
★6 (3-0-3). Etude de composés organiques et leur structure moléculaire, et la stéréo-chimie, de façon à ce que quelques molécules importantes en biologie (amino-acides, protéines, médicaments, pesticides, corps gras, sucres, hydrates de carbone, acides nucléiques) aussi bien que les molécules de tous les jours (savons, détergents, fibres, parfums, polymères, etc.) puissent être discutés. Prérequis: Chimie 30 ou l'équivalent. Note: Les étudiants qui ont des crédits en CHIM 100 ou 104 devront normalement suivre CHIM 260 et non CHIM 160.

CHIM 204 Chimie générale
★6 (3-1s-3). L'introduction à la chimie générale pour les étudiants qui ont déjà suivi le cours d'introduction à la chimie organique. Les modes de liaison et structure; les équilibres chimiques et équilibres de phases; la chimie des solutions; la thermochimie; l'électrochimie et la cinétique chimique avec des exemples choisis dans la chimie organique (systèmes d'importance biologique et de la chimie y inclus). Prérequis: Chimie 30 et CHIM 160. Recommandé comme prérequis ou corequis: MATHQ 113 ou 114 et 115 (spécialement pour ceux qui envisagent de poursuivre leurs études en chimie). Note: Les étudiants ayant des crédits en CHIM 160 devront prendre CHIM 204. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour CHIM 100, 104 ou l'équivalent.

CHIM 260 Chimie organique
★6 (3-0-3). L'étude de la structure moléculaire et de la réactivité des composés organiques d'un intérêt biologique et industriel. La chimie des polymères, des graisses, des peptides et des hydrates de carbone sera étudiée. La détermination des structures des composés sera examinée. Prérequis: CHIM 100 ou 104 ou 204. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour CHIM 160.

184.11 Comptabilité/Accounting

COMPT 311 Introduction à la comptabilité
★3 (3-1.5s-0). Postulats, principes, cycle comptable, calcul du capital et du revenu, préparation et analyse d'un état financier; insistance sur les rapports à présenter aux actionnaires et autres agents externes détenant des pouvoirs de décision. Prérequis: ECONE 101/102.

COMPT 322 Gestion et méthodes de contrôle
★3 (3-0-2). Objectifs d'une entreprise, concepts de planification et de contrôle, accumulation des coûts en vue de l'établissement des prix et de l'évaluation du prix de revient des produits. Prérequis: COMPT 311.

COMPT 414 Comptabilité financière (niveau intermédiaire)
★3 (3-0-2). Traitement approfondi de la théorie et des méthodes du modèle de comptabilité GAAP (Principes de comptabilité généralement acceptés) et évaluation de ses points forts et de ses points faibles. Des comparaisons seront faites avec d'autres modèles comptables. Prérequis: COMPT 311, 322.

184.12 Curriculum et méthodologie/Education Curriculum and Instruction

CU ME 132 Test d'élocution
★0 (0).

CU ME 203 Introduction à l'éducation préscolaire
★3 (3-0-0). Historique et modèles pédagogiques en éducation préscolaire (l'éducatio des enfants de 4 à 8 ans). Rôle du jeu et du développement de l'enfant dans l planification pédagogique. Contextes: immersion et français en milieu minoritaire.

CU ME 205 Planification de l'enseignement élémentaire
★3 (3-0-0). Objectifs (taxonomies). Théories du développement du curriculum Analyse de la programmation à l'élémentaire. Evénements d'enseignement. Organi sation d'unités d'enseignement. Plans de leçons.

CU ME 301 Introduction à l'éducation physique au niveau élémentaire
★3 (0-3L-0). L'étude de l'enfant dans ses expériences de mouvement. La terminologi spécifique à l'enseignement de l'éducation physique en français. Le développemer des habiletés motrices et psychomotrices de l'enfant. Les programmes d'éducatio physique à l'élémentaire.

CU ME 303 Programmes et environnement au préscolaire
★3 (3-0-0). Etude critique des programmes d'études (immersion et français en mili minoritaire) et analyse du matériel pédagogique. Enseignement par thèmes, pa ateliers, par centres: intégration des matières et individualisation des programme Création des environnements pédagogiques à l'intérieur et à l'extérieur de la salle d classe. Prérequis: CU ME 203 ou l'équivalent avec l'accord de l'instructeur. Ce cour n'est pas accessible aux étudiants ayant ou postulant des crédits pour CU ME 404

CU ME 307 Introduction à l'enseignement du français au niveau élémentaire dans les milieux bilingues et d'immersion
★3 (3-0-0). Buts et objectifs de l'enseignement de la langue. Principes linguistique et pédagogiques. Didactique générale du français en relation avec les quatr savoirs. Nouvelles tendances dans l'enseignement de la langue.

CU ME 310 Enseignement de la lecture au niveau élémentaire
★3 (3-0-0). Objectifs, techniques et évaluation de l'enseignement et de l'apprentissag de la lecture. Déchiffrage et compréhension. Correspondance entre l'oral et l'écri Lecture corrective. Méthodes, programmes et matériel existants. Prérequis: CU M 307 ou l'accord du responsable de pédagogie.

CU ME 311 Enseignement de la communication orale et écrite au niveau élémentaire
★3 (3-0-0). Objectifs, techniques et évaluation de l'enseignement de l'expression ora et écrite. Analyse de quelques problèmes relatifs à ces expressions. Programmes matériel existants. Prérequis: CU ME 307 ou l'accord du responsable de pédagogie.

CU ME 312 Enseignement des études sociales au niveau élémentaire
★3 (3-0-0).

CU ME 316 Enseignement des mathématiques au niveau élémentaire
★3 (0-3L-0).

CU ME 320 Enseignement des sciences au niveau élémentaire
★3 (0-3L-0).

CU ME 326 Enseignement de l'éducation physique au niveau élémentaire
★3 (0-3L-0). Les approches pédagogiques pour l'enseignement en français d l'éducation physique à l'élémentaire. La programmation; les diverses méthodologie et stratégies d'enseignement; les systèmes d'évaluation de l'enfant et du programm

CU ME 336 Enseignement du dessin au niveau élémentaire.
★3 (3-0-2).

CU ME 339 Enseignement de la musique au niveau élémentaire I
★3 (0-3L-0). Prérequis: MUSiQ 103 ou l'équivalent, ou MUSIQ 150 et 151 d l'équivalent.

CU ME 343 Introduction à l'enseignement des beaux-arts
★3 (3-0-0). Intégration des beaux-arts dans la vie quotidienne de l'enfant à l'écol Une partie du cours sera consacrée aux ateliers pratiques.

CU ME 347 Introduction à l'ordinateur en éducation
★3 (3-0-2). L'ordinateur individuel: définition des principales composantes fonctionnement. Mode direct et mode différé d'utilisation d'un ordinateur. L'enseigneme assisté, séquentiel et ramifié. La répétition d'exercices. L'acquisition de concepts. L simulation. Les jeux. Le traitement de textes. Les langages d'auteur. Initiation a principales applications pédagogiques de l'ordinateur et réflexions sur le rôle d l'ordinateur en pédagogie.

CU ME 350 Enseignement du français dans les classes d'immersion tardive au niveau secondaire
★3 (3-0-0). Principes d'acquisition et d'apprentissage d'une langue seconde. Etud du phénomène d'immersion comme moyen d'apprendre et d'enseigner une deuxièm langue. Etude des ressources et des pratiques pédagogiques pour l'enseigneme du français en situation d'immersion au niveau secondaire.

CU ME 357 L'enseignement dans les écoles françaises en milieu minoritaire
★3 (3-0-0). Cours de pédagogie et de méthodologie à l'intention des futu enseignants qui se dirigent vers l'enseignement dans les écoles françaises en mili minoritaire. Les thèmes suivants seront étudiés: le rôle et les responsabilités l'enseignant face à l'élève minoritaire et à sa communauté; les attitudes et l actions de l'enseignant qui vont permettre à l'étudiant de s'approprier ses réalit culturelles; la pédagogie de l'interaction; l'éducation communautaire; le développeme de programmes et de matériel pédagogique; la programmation culturelle.

CU ME 358 Enseignement du français langue première au niveau secondaire
★3 (3-0-0). Pédagogie générale et pratique du français langue première en mili minoritaire; étude du contexte social, des besoins langagiers et culturels de l'élè francophone minoritaire au secondaire; réflexions sur la langue et sur les objecti Initiation aux méthodes d'enseignement; analyse du programme et du matér pédagogique prescrit par le Ministère de l'éducation.

CU ME 359 Enseignement de la littérature au niveau secondaire
★3 (3-0-0). Pédagogie générale et pratique de la littérature; méthodes d'enseigneme et d'analyse du roman, de la poésie et de la pièce de théâtre; les objectifs, l besoins de l'élève, la critique littéraire et son rôle au secondaire; analyse programme et du matériel pédagogique prescrit par le Ministère de l'éducation.

CU ME 360 Enseignement des études sociales au 1er cycle du secondaire
★3 (3-0-0). Pédagogie générale et pratique de l'enseignement des études sociale analyse des programmes d'études sociales pour les francophones en mili minoritaire et pour le milieu d'immersion française; étude des ressources prescrit par le Ministère de l'éducation; étude des méthodes d'enseignement et d'évaluatio des objectifs d'apprentissage, et le rôle et les responsabilités de l'enseignant d études sociales. Prérequis: Deux cours complets dans la spécialisation.

ME 361 Enseignement des études sociales au 2e cycle du secondaire
(3-0-0). Pédagogie générale et pratique de l'enseignement des études sociales; alyse des programmes d'études sociales et des ressources prescrites par le iistère de l'éducation; étude de l'historique des études sociales et des concep- ns d'études sociales; étude des méthodes d'enseignement et d'évaluation des des sociales; et intégration des actualités aux objectifs des programmes d'études iales. Prérequis ou co-requis: CU ME 360.

ME 364 Introduction au curriculum des mathématiques au niveau condaire
(3-0-0).

ME 365 Introduction à la méthodologie de l'enseignement des thématiques au niveau secondaire
(3-0-0).

ME 368 Enseignement des sciences au niveau secondaire
(0-3L-0). Prérequis: deux cours complets dans la spécialisation.

ME 369 Enseignement des sciences au niveau secondaire II
(0-3L-0).

ME 387 Enseignement de la musique au niveau secondaire I
(3-0-0). Prérequis ou corequis: deux cours complets dans la spécialisation.

ME 388 Enseignement de la musique au niveau secondaire II
(3-0-0). Prérequis ou corequis: CU ME 387.

ME 389 Enseignement de l'art dramatique au niveau secondaire I
(3-0-0). Prérequis ou corequis: deux cours complets dans la spécialisation.

ME 390 Enseignement de l'art dramatique au niveau secondaire II
(3-0-0). Prérequis ou corequis: CU ME 389.

ME 403 Enseignement au préscolaire: théorie et pratique
(3-0-0). Cours avancé de synthèse. Controverses, recherche et débats en ucation préscolaire (contexte: immersion et français en milieu minoritaire). Prérequis: ME 303. Ce cours n'est pas accessible aux étudiants ayant ou postulant des édits pour CU ME 404.

ME 404 Méthodologie de l'enseignement aux tout-petits
(3-0-3;3-0-0). Prérequis: une année d'expérience dans l'enseignement. Ce cours st pas accessible aux étudiants ayant ou postulant des crédits pour CU ME 303 ou 403.

ME 405 Séminaire en enseignement élémentaire
(3-0-0). Étude de sujets propres à l'enseignement élémentaire.

ME 410 Enseignement de la littérature aux petits
(3-0-0).

ME 411 Enseignement de la littérature aux enfants de 9 à 12 ans
(3-0-0). Prérequis: CU ME 410.

ME 412 Enseignement des sciences humaines au niveau élémentaire
(3-0-0). Prérequis: CU ME 312 ou l'équivalent.

ME 414 Changements apportés au programme des études sociales au veau élémentaire
(3-0-0). Note: ce cours est destiné aux enseignants.

ME 439 Perfectionnement musical selon les principes kodaliens I
(0-3L-0). Formation vocale et auditive conduisant à la maîtrise des relations élodiques et des formules rythmiques de base. Lecture et écriture dans les deux stèmes (relatif, absolu). Répertoire choral. Initiation à la direction chorale, itiation à l'audition des oeuvres. Note: Ce cours conjoint à CU ME 440, est destiné ux enseignants. Prérequis: CU ME 339 ou équivalent.

ME 440 Pédagogie de l'éducation selon les principes kodaliens I
(0-3L-0). Démarches pédagogiques et progression des concepts au niveau émentaire du Programme d'étude et du Guide pédagogique en éducation musicale. épertoire de chansons folkloriques avec animation, et analyse. Introduction au lklore. Note: Ce cours conjoint à CU ME 439, est destiné aux enseignants. Prérequis: CU ME 339 ou équivalent.

ME 444 Etude personnelle dirigée dans le domaine de l'enseignement au iveau élémentaire
(3-0-0). Prérequis: accord du professeur et du Doyen.

ME 451 Enrichissement du français parlé au niveau de la maternelle
(3-0-0).

ME 458 Nouvelles façons d'aborder l'enseignement du français en situa- on d'immersion
(3-0-0). Cours qui a pour but de donner un aperçu des nouvelles tendances et es grands courants dans l'enseignement de la langue. L'approche d'immersion est xée sur le développement de la communication. Le cours invitera les participants à réfléchir sur la dimension communicative de la langue, et leur permettra de se familiariser tant au niveau théorique que pratique avec la méthodologie de l'approche communicative. Les participants seront invités à partager leurs idées et leurs expériences. Ce cours est réservé aux enseignants.

ME 459 Séminaire dans le domaine de l'enseignement au niveau lémentaire
(3-0-0). Le contenu du cours varie d'une année à l'autre. Les sujets sont annoncés avant la période d'inscription. Le titre du cours figurera sur le relevé de notes de l'étudiant.

ME 462 Changements apportés au programme des études sociales au iveau secondaire
(3-0-0). Prérequis: CU ME 360/361 ou EDSEC 476/477 ou l'accord du Doyen.

ME 494 Enseignement de l'éducation physique au niveau secondaire
(0-3L-0). Les approches pédagogiques pour l'enseignement en français de éducation physique au secondaire, la programmation; les diverses méthodologies stratégies d'enseignement; les systèmes d'évaluation de l'élève et du programme.

ME 496 L'enseignement religieux et l'éducation morale
(3-0-0).

ME 497 La pédagogie de l'enseignement du français langue maternelle en situation minoritaire
(0-3s-0). Survol de la situation minoritaire francophone et identification des besoins culturels et linguistiques des étudiants francophones minoritaires. L'étude des objectifs à viser dans l'enseignement du français langue maternelle en situation minoritaire. Retour sur la langue, son rôle, ses composantes en fonction des besoins de l'étudiant francophone minoritaire. L'étude approfondie des moyens, des méthodes, des ressources à utiliser. Comparaison entre les anciennes et les nouvelles approches pédagogiques. Regard critique sur le curriculum. Ce cours est réservé aux enseignants.

CU ME 498 Séminaire dans le domaine de l'enseignement au niveau secondaire
★3 (0-3s-0). Le contenu du cours varie d'une année à l'autre. Les sujets sont annoncés avant la période d'inscription. Le titre du cours figurera sur le relevé de notes de l'étudiant.

CU ME 499 Etude personnelle dirigée dans le domaine de l'enseignement au niveau secondaire
★3 (3-0-0). Prérequis: accord du professeur et du Doyen.

CU ME 500 Théorie générale de curriculum: contexte écoles françaises en milieu minoritaire et écoles d'immersion
★3 (3-0-0). Analyse approfondie des définitions et théories du curriculum, de ses composantes et de ses bases idéologiques et de leurs applications dans les écoles françaises en milieu minoritaire et en immersion. Limité aux détenteurs d'un baccalauréat en éducation ou l'équivalent.

CU ME 501 Développement, implantation, et évaluation des programmes en immersion et dans les écoles françaises en milieu minoritaire
★3 (3-0-0). Cours de curriculum à orientation pratique. Analyse et évaluation des composantes, des valeurs et des idéologies à la base des programmes d'étude, du matériel d'appui et des programmes socio-culturels utilisés en situation minoritaire et immersion. Le développement, l'évaluation, et l'implantation de programmes pour les écoles françaises et pour les écoles d'immersion. Prérequis ou corequis: CU ME 500. Limité aux détenteurs d'un baccalauréat en éducation ou l'équivalent.

CU ME 502 Etude personnelle dirigée dans le domaine de l'enseignement en français
★3 (3-0-0). Limité aux détenteurs d'un baccalauréat en éducation ou l'équivalent.

CU ME 519 Perfectionnement musical selon les principes kodaliens II
★3 (0-3L-0). Formation vocale et auditive conduisant à la maîtrise des formules et intervalles mélodiques et de leurs fonctions tonales propres à la gamme diatonique: majeure et mineure. Techniques d'improvisation et de composition. Lecture et écriture dans les deux systèmes et les deux clés de F et G. Répertoire choral et technique de direction à deux voix. Audition et analyse des oeuvres. Note: Ce cours conjoint à CU ME 540, est destiné aux enseignants. Prérequis: CU ME 439 ou équivalent.

CU ME 529 Perfectionnement musical selon les principes kodaliens III
★3 (0-3L-0). Formation vocale et auditive conduisant à la maîtrise de tous les éléments constitutifs du langage musical: leurs fonctions: tonale, harmonique. Lecture et écriture dans les deux systèmes et les clés. Répertoire et chansons: gamme diatonique, majeure, mineure. Exercises d'improvisation et de composition. Reconnaissance auditive des suites usuelles d'accords majeurs et mineurs. Etudes des modes anciens. Répertoire choral et direction à plusieurs voix. Audition et analyse d'oeuvres. Note: Ce cours conjoint à CU ME 560 est destiné aux enseignants. Prérequis: CU ME 519 ou équivalent.

CU ME 540 Pédagogie de l'éducation musicale selon les principes kodaliens II
★3 (0-3L-0). Etude de la syntaxe élémentaire du langage musical: relations mélodiques et fonctions harmoniques. Démarches pédagogiques et concepts au niveau moyen du programme d'étude et guide pédagogique en éducation musicale. Enrichissement du répertoire folklorique (et autres) avec animation et analyse. Etude des caractéristiques de la chanson folklorique française. Note: Ce cours conjoint à CU ME 519, est destiné aux enseignants. Prérequis: CU ME 440 ou équivalent.

CU ME 560 Pédagogie de l'éducation musicale selon les principes kodaliens III
★3 (0-3L-0). Démarches pédagogiques et concepts au niveau avancé du programme d'étude et du guide pédagogique en éducation musicale. Elargissement du répertoire folklorique (et autres) avec animation, analyse et thèmes d'oeuvres plus avancés. Exploration formelle et approfondie du domaine folklorique. Approches pédagogiques des oeuvres. Planification et leçons pratiques. Note: Ce cours conjoint à CU ME 529, est destiné aux enseignants. Prérequis: CU ME 540 ou équivalent.

184.13 Economie/Economics

ECONE 101 Introduction à la micro-économie
★3 (3-0-0). Analyse économique, problèmes et politiques avec accent sur l'économie canadienne; le rôle des consommateurs et des compagnies dans les marchés à compétition et à monopole; le capital étranger dans l'économie canadienne; distribution des revenus, inégalité et pauvreté; utilisation du milieu; politiques économiques gouvernementales. Prérequis: Mathématiques 30 ou l'accord du Doyen.

ECONE 102 Introduction à la macro-économie
★3 (3-0-0). Analyses, problèmes et politiques économiques avec accent sur l'économie canadienne; revenu national et théorie monétaire; problèmes du chômage et de l'inflation; politiques gouvernementales monétaires et fiscales: théorie du commerce international, problèmes et politiques gouvernementales. Prérequis: Mathématiques 30 ou l'accord du Doyen.

ECONE 318 Introduction au développement économique du Canada I
★3 (3-0-0). Analyse du développement économique au Canada avant la Première Guerre mondiale. Ce cours met l'accent particulièrement sur la Confédération, la politique nationale et la peuplement de l'Ouest. Prérequis: ECONE 101/102 ou l'accord du Doyen. Remarque: un étudiant ne peut cumuler les crédits de ECONE 316 et ECONE 318.

ECONE 319 Introduction au développement économique du Canada II
★3 (3-0-0). Analyse du développement économique au Canada depuis la Première Guerre mondiale. Ce cours s'intéresse spécialement aux questions de politique qui réapparaissent périodiquement telles que la libération du commerce, l'investissement étranger, les disparités régionales et la performance macroéconomique. Prérequis: ECONE 318. Remarque: un étudiant ne peut cumuler les crédits de ECONE 317 et ECONE 319.

ECONE 323 Economie internationale
★3 (3-0-0). Aperçu des principes de l'économie internationale. Application de ces

principes à la politique économique. L'accent est mis sur des sujets comme le commerce international, l'investissement étranger et la balance des paiements. Prérequis: ECONE 101/102 ou l'accord du Doyen.

ECONE 341 Monnaie et Banque
★3 (3-0-0). Dans ce cours l'accent est mis principalement sur l'offre de monnaie et le contrôle monétaire. Y seront abordées des questions telles le rôle de la monnaie et du crédit dans le processus de l'échange, les intermédiaires financiers, les banques commerciales et les banques centrales. Prérequis: ECONE 101/102 ou l'accord du Doyen.

ECONE 381 Théorie micro-économique intermédiaire
★3 (3-0-0). Théorie du comportement des consommateurs; théorie de la production; coûts de production; équilibre en situation de concurrence parfaite, de concurrence monopolistique, de monopole pur et d'oligopole. Prérequis: ECONE 101/102 ou l'accord du Doyen. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour ECON 383, MANEC 301 ou MANEC 323.

ECONE 382 Théorie macro-économique intermédiaire
★3 (3-0-0). Les thèmes majeurs de ce cours sont: le revenu national (théorie et applications), la théorie de la consommation globale, la théorie de l'investissement, la théorie de l'emploi, la politique monétaire et fiscale. Prérequis: ECONE 101/102 ou l'accord du Doyen. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour MANEC 333 ou MANEC 402.

ECONE 399 Introduction a l'économétrie
★3 (3-0-1). Etude élémentaire des sujets majeurs de l'économétrie avec insistance sur les méthodes de régression appliquée. Prérequis: ECONE 381/382, ECON 395/396, ou STAT 255 ou l'équivalent. Remarque: ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits en MGTSC 413, 414, 417, 419, STAT 341 ou AG EC 416. Les étudiants s'inscrivant au Certificat d'équivalence aprés avoir terminé un BA (Général) peuvent remplacer ECON 395/396 par STATQ 141 ou STAT 236 avec l'accord du Doyen.

ECONE 422 Monnaie et finance internationales
★3 (3-0-0). Analyse des mouvements de capitaux à court et long termes, investissements directs de l'étranger au Canada, échanges internationaux, problèmes de la balance des paiements, mécanismes de régulation internationale et ententes monétaires. Prérequis: ECON 381/382.

184.14 Education physique/Physical Education

EDPHQ 400 Problèmes contemporains
★3 (3-0-0). Analyse intraculturelle des problèmes posés par l'éducation physique dans une perspective d'éducation bilingue.

184.15 Enseignement pratique/Education Practicum

184.15.1 Elémentaire

Phase I

ENPRQ 200 Introduction à l'enseignement élémentaire
★3 (0-5L-0). Un cours de pédagogie générale et pratique. L'observation en milieu scolaire; l'enfant et l'école élémentaire; l'enseignant et les autres agents de l'éducation; les modèles pédagogiques et les programmes d'études; sa philosophie personnelle de l'éducation.

Phase II

ENPRQ 301/302 Enseignement pratique: Niveau élémentaire
★6 (6 semaines). Cours de pédagogie pratique: stage pratique de 4 semaines dans un milieu scolaire (immersion française ou français en milieu minoritaire) et 2 semaines de cours à contenu théorique et pratique à la Faculté. Prérequis: ENPRQ 200 ou l'équivalent et une note de 6 ou plus dans le test d'admission aux stages.

Phase III

ENPRQ 303/304/305 Enseignement pratique: Niveau élémentaire
★9 (9 semaines). 9 semaines consécutives d'observation et d'enseignement dans un milieu scolaire (immersion française ou français en milieu minoritaire). Un minimum d'une session de retour à la Faculté. Prérequis: Phase II.

Phase IV

ENPRQ 409 Etude approfondie individuelle de compétences particulières dans l'enseignement au niveau élémentaire
★3 (3-0-0). Prérequis: approbation du responsable de pédagogie.

184.15.2 Secondaire

Phase I

ENPRQ 251 Introduction à l'enseignement secondaire
★3 (0-5L-0). Cours de pédagogie générale et pratique. Etude des cadres à l'intérieur desquels le futur enseignant devra travailler; l'école et l'éducation de demain; les éléments constitutifs de l'acte pédagogique; l'adolescent et son univers; le rôle, les responsabilités de l'enseignant; observation en milieu scolaire et travaux pratiques d'organisation et de préparation.

Phase II

ENPRQ 352/353 Enseignement pratique: Niveau secondaire.
★6 (6 semaines). Cours de pédagogie pratique: stage de 4 semaines dans un milieu scolaire: immersion française ou français en milieu minoritaire et 2 semaines de cours à contenu théorique et pratique à la Faculté. Prérequis: ENPRQ 251 ou l'équivalent et une note de 6 ou plus dans le test d'admission aux stages.

Phase III

ENPRQ 354/355/356 Enseignement pratique: Niveau secondaire.
★9 (9 semaines). 9 semaines consécutives d'observation et d'enseignement dans un milieu scolaire: immersion française ou français en milieu minoritaire. Un minimum d'une session de retour à la Faculté lors du stage pratique. Prérequis: Phase II.

Phase IV

ENPRQ 459 Etude approfondie individuelle de compétences particulières dans l'enseignement au niveau secondaire.
★3 (3-0-0). Prérequis: approbation du responsable de pédagogie.

184.16 Entomologie/Entomology

ENTIE 120 Introduction à la biologie des insectes
★3 (3-0-3). Introduction à la structure, à la fonction, à l'écologie et à la systématique des insectes, l'accent étant mis sur la régulation de leur métabolisme, de leur locomotion, de leur reproduction et de leur développement. Etude de l'évolution des ordres des insectes et de leurs interactions avec les autres organismes, y compris l'homme. Prérequis: Biologie 30 ou l'accord du Doyen.

184.17 Etudes canadiennes/Canadian Studies

ETCAN 421 Langue et gouvernement au Canada
★3 (0-3s-0). Une étude de la diversité linguistique au Canada et de son impact sur les politiques et les institutions de gouvernement. Les thèmes comprennent le contact des langues, le maintien d'une langue, la mobilisation ethnique, les politiques linguistiques. Analyse approfondie de la législation en matière de langue et de l'utilisation des langues au sein des assemblées législatives, des fonctions publiques, des tribunaux et des écoles. Prérequis: SC PO 320 ou l'accord du Doyen. Note 1: ce cours peut compter pour la spécialisation en science politique. Note 2: ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits en SC PO 421.

184.18 Etudes classiques/Classics

ECLSS 102 La mythologie grecque et romaine
★3 (3-0-0). Un aperçu de la mythologie au moyen de lectures choisies en traduction d'auteurs anciens et d'études contemporaines.

ECLSS 250 Le monde grec
★3 (3-0-0). Vie et société grecques illustrées par des découvertes archéologiques: l'âge de bronze, la cité, les temples, Athènes, Sparte, l'art et l'architecture grecs, le commerce et la guerre. Diapositives, films et autres documents.

ECLSS 357 Mythes classiques et religion
★3 (3-0-0). Fondements et origines des mythes classiques et de la religion; les festivals religieux et coutumes; les humanistes modernes. Prérequis: ECLSS 102.

ECLSS 359 Classiques en français I
★3 (3-0-0). Une étude historique et critique de classiques de la littérature grecque et latine. Prérequis: ECLSS 102 ou 250.

ECLSS 360 Classiques en français II
★3 (3-0-0). Une étude historique et critique de classiques de la littérature grecque et latine. Prérequis: ECLSS 102 ou 250.

ECLSS 367 L'art grec archaïque et classique
★3 (3-0-0). L'origine et le développement de l'art et de l'architecture grecs. Son rapport avec l'histoire culturelle et politique de l'époque.

ECLSS 368 L'art helléniste et romain
★3 (3-0-0). Le développement et le rôle de l'art et de l'architecture dans les royaumes helléniques et dans la république romaine: l'évolution de l'art impérial romain.

ECLSS 483 La tragédie grecque et romaine I
★3 (3-0-0). Prérequis: ECLSS 359 ou 360 ou l'accord du Doyen.

ECLSS 484 La tragédie grecque et romaine II
★3 (3-0-0). Prérequis: ECLSS 359 ou 360 ou l'accord du Doyen.

184.19 Etudes de la religion/Religious Studies

ET RE 102 Introduction aux religions de l'Occident
★3 (3-0-0). Parcours historique des religions judaïque, chrétienne et islamique.

ET RE 231 Introduction à l'Ancien Testament
★3 (3-0-0). Introduction aux aspects littéraires et historiques de l'Ancien Testament.

ET RE 248 La tradition chrétienne
★3 (3-0-0). Les thèmes classiques de la chrétienneté depuis le Nouveau Testament jusqu'à nos jours: le message de Jésus-Christ, le kerygme, la hiérarchie de l'église, l'évolution de la doctrine, le canon des Saintes Ecritures, l'Eglise et l'Etat, les Saintes Ecritures et leur interprétation.

ET RE 249 Introduction au Nouveau Testament
★3 (3-0-0). Etude des premiers écrits de l'époque chrétienne, y compris les écrits apocryphes. On examine surtout la théologie de cette littérature et les images qui sont en voie de développement.

T RE 250 Jésus de Nazareth
3 (3-0-0). Une étude biblique et historique de Jésus: sa vie, sa mort, sa surrection et son influence à travers les âges.

T RE 261 Symbolisme religieux
3 (3-0-0). Etude comparative des symboles religieux dans les différentes religions ı monde: primitives, classiques et modernes. Une attention particulière sera ccordée aux différentes approches et méthodes.

T RE 263 Les fondateurs des religions
3 (3-0-0). Une étude de la vie des fondateurs des religions: Abraham, Bouddha, ésus-Christ et Mohammed; et comment leur vie a donné un sens à la vie et aux ıvotions des croyants à travers l'histoire. L'accent sera mis sur les livres hagiographiques religieux concernant la naissance, les miracles et la vie des fondateurs.

T RE 330 Le pentateuque
3 (3-0-0). La Genèse, l'Exode, le Lévitique, les Nombres, le Deutéronome. Etude ıitique des récits et de l'enseignement de ces cinq livres de la Bible.

T RE 332 Les Ecrits entre les deux Testaments
3 (3-0-0). Etudes de certains textes qui ont des liens soit avec l'Ancien soit avec le ouveau Testament et qui appartiennent à la période intertestamentaire. Exemples: s écrits de la Mer Morte, les Apocalypses.

T RE 333 Les Prophètes
3 (3-0-0). Etude critique de la deuxième partie de la Bible hébraïque. En particulier, ıtude des livres historiques et de certains prophètes. La pertinence de ces écrits our le monde actuel.

T RE 359 Martin Luther
3 (3-0-0). Etude de la vie de Luther et regard critique sur ses oeuvres et sa éologie. Son influence sur la Réforme.

84.20 Evaluation en éducation/Evaluation in Education

VAED 498 La mesure et l'évaluation en éducation
3 (3-0-0). La définition des objectifs. La mesure critériée et normative. L'évaluation ormative, formative et diagnostique. Les étapes de la planification d'un examen. observation des élèves. L'évaluation des attitudes. L'analyse et l'interprétation des ésultats.

84.21 Famille/Family

A MI 333 Ecole, famille, communauté
3 (3-0-0). Analyse des problèmes que les besoins changeants de la famille et de la ommunauté posent à l'école (contexte francophone minoritaire/immersion française).

84.22 Fondements de l'éducation/Educational Foundations

O ED 201 Introduction à l'histoire canadienne de l'éducation
3 (3-0-0). Une introduction à l'étude des relations entre l'école publique et la ociété. Les questions du bilinguisme et du multiculturalisme, de l'égalité des hances et du retour aux compétences de base seront abordées à partir d'une nalyse sociologique, politique et historique.

O ED 301 L'éducation au Canada: thèmes particuliers
3 (3-0-0). Une introduction à l'étude historique des écoles publiques au Canada vec une insistance sur l'Ouest canadien. L'étude sera faite de façon thématique en xaminant les antécédents historiques de certains problèmes scolaires contemporains. lormalement réservé aux étudiants du BEd/AD. Ce cours n'est pas accessible aux tudiants ayant ou postulant des crédits pour FO ED 201.

O ED 401 L'école française en situation minoritaire
3 (3-0-0). Son historique et sa situation sur le plan national, son rôle, ses buts, sa réation, sa gérance et ses programmes. Les besoins auxquels elle doit répondre. 'article 23 et la loi scolaire. Le rôle des parents et des enseignants. L'école ançaise et les programmes d'immersion: distinction et comparaison. Avenir de école française au Canada et en Alberta.

O ED 402 Choix de sujets en fondements de l'éducation
3 (3-0-0). Prérequis: Accord du Doyen.

O ED 430 Histoire de l'éducation dans l'Ouest
3 (3-0-0).

O ED 452 Approche philosophique de l'éducation et des théories du savoir
3 (3-0-0). Une introduction à l'étude philosophique de l'éducation. Deux ou trois uteurs importants en philosophie de l'éducation seront abordés à partir de leur héorie de la connaissance et de ses implications pour l'éducation.

84.23 Français/French

Voie intermédiaire
FRANC 160, FRANC 261 (1ère année)
FRANC 262 (2e année)
FRANC 322

Voie avancée
FRANC 165, FRANC 166 (1ère année)
FRANC 267 (2e année)
FRANC 322

Notes:
(1) Le tableau ci-dessus indique les cours obligatoires suivant la voie dans laquelle est orienté un étudiant et le moment où ils doivent être pris.

(2) Un étudiant ayant réussi des cours de la voie avancée ne peut se réorienter vers la voie intermédiaire ou postuler des crédits pour les cours de cette voie et vice versa.

(3) Les étudiants inscrits en FRANC 160 ne peuvent suivre que l'équivalent de trois demi-cours le semestre où ils prennent FRANC 160.

(4) Un seul cours de français au niveau 100 peut être crédité.

FRANC 160 Cours de français intermédiaire: niveau I
★6 (6-2s-2). Cours intensif: compréhension orale et écrite, usage créatif de la langue, acquisition des structures grammaticales de base. Prérequis: French 30, ou l'équivalent. Affectation par test de classement. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 150 ou 152 à la Faculté des Arts. Cours complet enseigné sur un semestre.

FRANC 165 Cours de français avancé: niveau I
★3 (3-0-2). Etude et mise en pratique des points principaux de la morphologie et de la syntaxe du français. Travaux d'application oraux et écrits. Prérequis: French 30 ou l'équivalent. Affectation par test de classement. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 158 à la Faculté des Arts.

FRANC 166 Cours de français avancé: niveau II
★3 (3-0-2). Développement de l'expression orale et écrite. Etude approfondie de la syntaxe et de la morphologie du français. Travaux d'application. Prérequis: FRANC 165.

FRANC 261 Cours de français intermédiaire: niveau II
★3 (3-0-2). Enrichissement de l'expression orale et écrite. Renforcement de l'acquisition des structures grammaticales. Ateliers de lectures et d'écriture. Prérequis: FRANC 160. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FRANC 165 et 166 ou FREN 158 à la Faculté des Arts.

FRANC 262 Cours de français intermédiaire: niveau III
★3 (3-0-0). Perfectionnement de l'expression écrite. Etude d'aspects particuliers de la grammaire française. Travaux d'écriture et pratique de l'autocorrection. Prérequis: FRANC 261. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 350 à la Faculté des Arts.

FRANC 267 Cours de français avancé: niveau III
★3 (3-0-0). Révision systématique de la grammaire française et étude approfondie d'aspects particuliers du français. Mise en pratique de la théorie par des travaux de rédaction. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FR CA 340 à la Faculté des Arts.

FRANC 271 Orthographe française
★3 (3-0-0). Etude des lois régissant l'orthographe usuelle et l'orthographe grammaticale. Prérequis: FRANC 166 ou FRANC 261, ou l'équivalent.

FRANC 272 La rédaction française
★3 (3-0-0). Etude des méthodes de la rédaction. L'expression des idées: étude du vocabulaire et de la phrase. Travaux de rédaction. Prérequis: FRANC 166 ou FRANC 261, ou l'équivalent.

FRANC 273 Documentation et présentation
★3 (3-0-0). Initiation à la recherche des documents, à leur sélection, à leur critique et à leur classement. Norme de présentation des travaux de recherche. Travaux pratiques.

FRANC 274 Phonétique corrective
★3 (3-0-0). Etude des sons isolés du système phonatoire français. Facteurs linguistiques et phonétiques intervenant dans la chaîne parlée. Principes et procédés de correction phonétique.

FRANC 322 Pratique de la dissertation
★3 (3-0-0). La compréhension, l'analyse et la synthèse de données. L'étude et la manipulation du raisonnement logique. La recherche et l'exploitation des arguments. L'élaboration et la mise en forme de la dissertation comme texte clair, cohérent et convaincant. Travaux pratiques. Cours obligatoire pour l'obtention du diplôme de la Faculté. Prérequis: FRANC 262, ou 267, ou l'équivalent.

FRANC 325 Initiation aux études littéraires
★3 (3-0-0). Etude des genres littéraires illustrée par des exemples (notamment du XVIIe siècle français). Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 330 à la Faculté des Arts.

FRANC 326 Littérature française du XVIIIe siècle
★3 (3-0-0). Evolution des genres littéraires illustrée par des textes du XVIIIe siècle. Prérequis: FRANC 325. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 360 à la Faculté des Arts.

FRANC 390 Littérature de jeunesse I
★3 (3-0-0). L'étude du répertoire de la littérature enfantine de langue française. Prérequis: FRANC 325 ou l'accord du Doyen.

FRANC 391 Littérature de jeunesse II
★3 (3-0-0). Etude du répertoire de littérature de jeunesse pour adolescents en termes de genres, de collections et de groupes d'âges. Fiction: de la bande dessinée au roman. Thèmes, structures du récit, personnages, qualités littéraires; les classiques. Non fiction: la littérature d'information scientifique et technique. Thèmes, critères de sélection. Les périodiques. Analyse et critique d'oeuvres marquantes du répertoire. Perspectives d'animation. Prérequis: FRANC 325 ou l'accord du Doyen.

FRANC 395 Civilisation francophone
★3 (3-0-0). Les différents aspects de la civilisation française: l'histoire, les institutions politiques, sociales et économiques; les arts, etc., de la France et des pays d'expression française (non-américains). Prérequis: FRANC 262 ou 267, ou l'équivalent.

FRANC 427 Littérature française du XIXe siècle
★3 (3-0-0). L'analyse des mouvements littéraires. L'évolution de la conception littéraire à travers les textes du XIXe siècle. Prérequis: FRANC 325. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 370 à la Faculté des Arts.

FRANC 428 Littérature française du XXe siècle
★3 (3-0-0). Etude d'oeuvres représentatives de la littérature moderne. Introduction à la littérature contemporaine. Prérequis: FRANC 325 et un demi-cours de littérature française. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 380 à la Faculté des Arts.

FRANC 431 Grammaire comparée du français et de l'anglais
★3 (3-0-0). Etude comparative des systèmes français et anglais sur les plans syntaxique, morphologique, lexical et sémantique. Prérequis: FRANC 262 ou 267 ou l'équivalent. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 400 à la Faculté des Arts. Note: Ce cours exige une bonne connaissance du français et de l'anglais.

FRANC 432 Stylistique comparée du français et de l'anglais
★3 (3-0-0). Comparaison des moyens d'expression du français et de l'anglais. Introduction à la traduction: théorie et pratique. Travaux d'application. Prérequis: FRANC 262 ou 267 ou l'équivalent. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 400 à la Faculté des Arts. Note: Ce cours exige une bonne connaissance du français et de l'anglais; il est recommandé à l'étudiant de suivre auparavant le cours FRANC 431.

FRANC 433 Terminologie des techniques
★3 (3-0-0). Questions pratiques de traduction (anglais/français) dans les domaines de la mécanique, des mines, de la chimie, de l'exploitation pétrolière, etc. Travaux pratiques. Prérequis: ce cours exige une bonne connaissance de l'anglais et du français ou l'accord du professeur.

FRANC 470 Analyse syntaxique
★3 (3-0-0). Etude approfondie de la structure de la phrase française. Théorie et pratique. Prérequis: FRANC 262 ou 267 ou l'équivalent. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 358 à la Faculté des Arts.

FRANC 475 Stylistique du français
★3 (3-0-0). Initiation aux procédés stylistiques. Prérequis: FRANC 322 ou l'équivalent.

FRANC 499 Etudes dirigées
★3 (3-0-0). Cours destiné à permettre aux étudiants d'approfondir un sujet de leur choix en littérature d'expression française non-canadienne. Prérequis: FRANC 325 et 2 demi-cours de littérature française.

184.24 Géographie/Geography

GEOGE 130 Introduction à la géographie physique I
★3 (3-0-3). Introduction à la géomorphologie. Analyse structurale des formes du relief terrestre et étude de leur évolution sous l'influence des conditions morpho-climatiques. Travaux pratiques. Ne peut être pris par les étudiants qui ont des crédits en GEOGE 201.

GEOGE 131 Introduction à la géographie physique II
★3 (3-0-3). Notions de climatologie et de biogéographie. Les climats, les sols et la végétation; étude de leurs combinaisons en divers milieux bioclimatiques. Travaux pratiques. Ne peut être pris par les étudiants qui ont des crédits en GEOGE 201.

GEOGE 150 Organisation de l'activité humaine en fonction de l'espace
★3 (3-0-0). Recherche d'un ordre dans l'occupation de la terre par l'homme et dans la distribution humaine sur terre; les cartes vues en tant que techniques pour comprendre la réalité.

GEOGE 151 Introduction à la géographie culturelle
★3 (3-0-0). Signification de la distribution humaine sur la terre. Les relations de l'homme avec son milieu physique; problèmes de la population mondiale; les différentes cultures à travers le monde.

GEOGE 221 Méthodes appliquées aux études de terrain et aux laboratoires en géographie physique
★3 (3-0-0). Introduction à la cartographie de terrain, méthodes élémentaires de repérage sur le terrain et collecte de données. Analyse de données et laboratoire. Possibilité d'une excursion d'une fin de semaine. Prérequis: GEOGE 130/131.

GEOGE 260 Géographie rurale du Canada
★3 (3-0-0). Le milieu physique et le développement rural du Canada; les limites physiques et les marges économiques: développement agricole et rural; l'avenir rural du Canada.

GEOGE 281 Géographie de la ville
★3 (3-0-0). Origine et extension de l'urbanisation. Problèmes de la croissance dans les zones urbaines et dans les systèmes interurbains.

GEOGE 282 Géographie urbaine du Canada
★3 (3-0-0). L'espace dans le développement urbain du Canada avec une référence particulière à la recherche actuelle.

GEOGE 340 Régionalisation du Canada
★3 (3-0-0). L'organisation régionale du Canada; l'influence de la répartition des ressources, de la localisation géographique, de la population, de l'urbanisation, de l'industrialisation, des groupes ethniques et des relations extérieures dans la différenciation régionale du Canada contemporain.

GEOGE 349 L'Ouest canadien
★3 (3-0-0). Ressources, types de développement et régions de l'Ouest Canadien. Accent sur les régions exploitées des Prairies et de la Colombie Britannique. Prérequis: accord du professeur.

GEOGE 354 Géographie de la population
★3 (3-0-0). Structures spatiales, caractéristiques démographiques et culturelles. Leur évolution. Répartition, densité, structures internes, mobilité et croissance de la population étudiées en fonction des diverses situations économiques et sociales.

GEOGE 406 Regards sur le paysage culturel
★3 (3-0-0). Examen d'une sélection de paysages mis de l'avant en Amérique du Nord et étudiés de manière à conduire à une interprétation théorique du pourquoi des paysages façonnés par l'humain. Prérequis: un cours de niveau 200 en Arts. Note: ce cours n'est pas accessible aux étudiants ayant des crédits en GEOG 341.

GEOGE 453 Recherche axée sur des problèmes spéciaux
★3 (3-0-0). Prérequis: un cours de niveau 300 en géographie.

GEOGE 460 Développement régional
★3 (3-0-0). Définitions du développement régional et des régions défavorisées. Efforts tentés pour y remédier et leurs effets spatiaux. Accent mis sur les régions défavorisées du Canada.

184.25 Géologie/Geology

GEOLE 102 Géologie physique
★3 (3-0-3). Structure interne et composition de la terre; continents et océans; roche et minéraux; eaux souterraines et approvisionnement en eau, érosion, transport dépôt de sédiments; activité éruptive et métamorphisme; formation des montagne structures tectoniques. Ce cours n'est pas accessible aux étudiants ayant obten des crédits en GEOL 201 ou 290.

GEOLE 103 La terre et la vie à travers les âges
★3 (3-0-3). Les processus géologiques et biologiques applicables à la géolog historique; la géologie structurale et les plaques tectoniques, la datation relative numérique l'analyse des faciés et corrélation, les fossiles, l'évolution de la vie. L géologie historique à partir de la formation du système solaire jusqu'à récemment: début des planètes, l'origine et le développement des chaînes de montagne bassins sédimentaires; principaux dépôts sédimentaires et gisements minier principaux groupes de fossiles, répertoire des fossiles, groupes disparus et radiation Prérequis: GEOLE 102. Ce cours n'est pas accessible aux étudiants ayant o postulant des crédits pour GEOL 204.

184.26 Histoire/History

HISTE 120 Histoire du monde depuis le 18e siècle
★6 (3-0-0). Cours de base du BA de 4 ans.

HISTE 204 Histoire de l'Europe depuis la Renaissance
★6 (3-0-0). Auparavant HISTE 201; ce cours n'est pas ouvert aux étudiants aya des crédits pour HISTE 201.

HISTE 217 L'Europe du 20e siècle
★6 (3-0-0).

HISTE 260 Introduction à l'étude de l'histoire du Canada de 1500 à 1867
★3 (3-0-0). Conçu pour servir de base aux cours de niveau supérieur en histoi canadienne. Auparavant HISTE 278; ce cours n'est pas accessible aux étudian ayant des crédits pour HISTE 278.

HISTE 261 Introduction à l'étude de l'histoire du Canada de 1867 à nos jours
★3 (3-0-0). Conçu pour servir de base aux cours de niveau supérieur en histoi canadienne. Auparavant HISTE 279; ce cours n'est pas accessible aux étudian ayant des crédits pour HISTE 279.

HISTE 360 Choix de sujets en histoire du Canada
★3 (3-0-0).

HISTE 365 L'Ouest canadien jusqu'en 1870
★3 (3-0-0). Un exposé mettant l'accent sur l'histoire des prairies de l'Ouest ma traitant également de l'expansion vers l'ouest et le nord et de l'ouest ultramontain

HISTE 366 L'Ouest canadien depuis 1870
★3 (3-0-0).

HISTE 374 Le Canada français jusqu'à la Confédération
★3 (3-0-0). L'évolution du Canada français étudiée dans sa globalité: économi société, vie politique.

HISTE 375 Le Canada français depuis la Confédération
★3 (3-0-0). L'évolution du Canada français étudiée dans sa globalité: économi société, vie politique.

HISTE 376 Le Canada, de la Première à la Deuxième guerre mondiale
★3 (3-0-0). Ce cours faisait partie de HISTE 376 (Histoire du Canada depuis 1914

HISTE 377 Le Canada depuis la Deuxième Guerre mondiale
★3 (3-0-0). Note: Ce cours faisait partie de HISTE 376 (Histoire du Canada depu 1914).

HISTE 378 Histoire du Canada à partir de la Confédération jusqu'à la Première guerre mondiale
★3 (3-0-0).

HISTE 399 La francophonie hors-Québec et son histoire
★3 (3-0-0). La formation et l'évolution des communautés francophones hor Québec, de l'établissement de l'Acadie à nos jours.

HISTE 460 Thèmes d'histoire du Canada
★3 (0-3s-0). Prérequis: 1 cours complet d'histoire du Canada.

HISTE 475 Thèmes d'histoire du Canada français au XXe siècle
★3 (0-3s-0). Plus particulièrement l'histoire de la francophonie hors-Québec. Prérequ 1 cours complet d'histoire du Canada.

184.27 Humanités/Humanities

HUME 301 L'humanité et ses besoins matériels: l'individu et la collectivité
★3 (3-0-0). Etude interdisciplinaire des sociétés occidentales et, plus précisémen de l'importance accordée dans ces sociétés aux biens matériels comme sources bonheur, de prestige et de pouvoir. L'étude de certains concepts (évolution l'homme et développement des sociétés, travail/loisir, production/consommatio accumulation/partage, etc.), permettra de cerner les difficultés rencontrées dans d sociétés de plus en plus matérialistes, à satisfaire les besoins et désirs des individ et des collectivités. Note: ce cours faisait partie de HUME 302.

HUME 303 L'humanité et ses besoins matériels: problèmes et conflits
★3 (3-0-0). Etude interdisciplinaire des problèmes auxquels doit faire face l'humani par rapport au progrès matériel et technologique, à l'exploitation et l'utilisation d ressources naturelles, à l'inégalité dans et entre les sociétés, à la dégradation de planète, aux conflits d'intérêts, aux idéologies nationales et internationales. C posera la question du rôle de l'individu et de la collectivité devant ces problème Prérequis: HUME 301 ou l'accord du Doyen. Note: ce cours faisait partie de HUM 302.

IME 401 Optiques et méthodes dans les Humanités
(3-0-0). Etude des différentes façons d'aborder les Humanités: analyse critique, énoménologie, herméneutique et autres. Travaux pratiques.

IME 402 L'humanité et ses besoins culturels/spirituels
(3-0-0). Etude interdisciplinaire du développement de l'humanité, en particulier la société occidentale, qui relève le défi de répondre à ses besoins culturels/rituels. Par l'étude de thèmes concrets actuels dans divers domaines, comme la igion, l'art, le langage, la communication, la morale..., l'étudiant sera amené à découvrir l'humain à partir du cheminement accompli dans le domaine culturel/rituel.

IME 420 Les grands écrits
(3-0-0). Etude interdisciplinaire et approfondie de textes importants relatifs à la nsée humaniste et qui proviennent de plusieurs milieux à différents stades du veloppement de l'humanité, comme le *Yi-king-Le Livre des mutations, Bhagavad-ta*, la *Bible*, l'*Odyssée* (Homère), *La République* (Platon), *Géorgiques* (Virgile), *Divine Comédie* (Dante), *Micromégas* (Voltaire), *The Wealth of Nations* (Smith), *e Origin of Species* (Darwin), *L'Homme et ses symboles* (Jung)....

84.28 Informatique/Computing Science

FOR 161 Introduction à l'informatique
3 (3-0-3). L'utilisation d'un micro-ordinateur. L'ordinateur et ses applications: itement de textes, graphique, tableur, base de données, transmission de données, . L'ordinateur et la société. Quelques éléments de programmation. Note: Ce urs n'est pas accessible aux étudiants ayant ou postulant des crédits pour CMPUT 4, 157, 251, 300. La priorité sera accordée aux étudiants du BA de la Faculté iint-Jean.

84.29 Linguistique/Linguistics

NGQ 200 Introduction à l'étude du langage
3 (3-0-0). Le langage et les autres moyens de communication. Les fonctions du ngage. Phonétique et prosodie.

NGQ 300 Linguistique française appliquée
3 (3-0-0). Langue, normes et société. Comparaison, dans le cadre du français, des fférents types de grammaires: analytique, fonctionnelle, transformationnelle. Prérequis: NGQ 200 ou équivalent.

84.30 Linguistique romane/Romance Linguistics

N R 320 Linguistique française: phonétique et morphophonologie
3 (3-0-0). Phonétique et phonologie comparées du français standard, du canadien-ançais et de l'anglais. Morphèmes de l'oral et de l'écrit. Evolution phonétique: cidence sur le français actuel. Facteur auditif et acquisition de L2. Prérequis: NGQ 200. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant es crédits pour R LIN 372 à la Faculté des Arts.

N R 422 Naissance et évolution de la langue française
3 (3-0-0). Etude de l'évolution du français aux plans phonétique, morphologique, ntaxique et sémantique, à la lumière de particularités actuelles de la langue. rérequis: LINGQ 200 ou l'équivalent. Note: ce cours n'est pas accessible aux tudiants ayant ou postulant des crédits pour R LIN 470.

84.31 Mathématiques/Mathematics

IATHQ 113 Calcul élémentaire I
3 (3-0-1). Revue de la géométrie analytique, différentiation et intégration des nctions simples, applications. Prérequis: Mathématiques 30 ou l'équivalent. Les tudiants ayant complété Mathématiques 31 ne peuvent pas prendre ce cours. Ce ours n'est pas accessible aux étudiants ayant ou postulant des crédits pour MATH 00, 114, 117.

IATHQ 114 Calcul élémentaire I
3 (3-0-1). Revue de la géométrie analytique. Différentiation et intégration des nctions simples. Applications. Prérequis: Mathématiques 30 et 31 ou l'équivalent. e cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour IATH 100, 113, 117.

IATHQ 115 Calcul élémentaire II
3 (3-0-0). Différentiation et intégration des fonctions trigonométriques, exponentielles t logarithmiques. Formes indéterminées et intégrales impropres. Techniques l'intégration. Applications. Prérequis: MATHQ 113, 114 ou l'équivalent.

IATHQ 120 Algèbre linéaire I
3 (3-0-0). Vecteurs et algèbre matricielle. Déterminants. Système d'équations néaires. Espaces vectoriels. Valeurs propres et vecteurs propres. Applications. rérequis: Mathématiques 30 ou l'équivalent. Remarque: ce cours n'est pas ccessible aux étudiants ayant ou postulant des crédits pour MATH 127, 200, 243.

IATHQ 121 Algèbre linéaire II
3 (3-0-0). Bases d'espaces vectoriels, transformations linéaires, changement de ases. Valeurs propres et espaces propres, diagonalisation. Produit scalaire. rocédé d'orthogonalisation de Gram-Schmidt, diagonalisation orthogonale. Forme uadratique. Applications. Prérequis: MATHQ 120 ou l'équivalent. Les cours de athématiques 30 et MATHQ 113 sont aussi recommandés. Remarque: ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour MATH 227.

IATHQ 214 Calcul intermédiaire I
3 (3-0-0). Séries infinies. Courbes planes et coordonnées polaires. Vecteurs et éométrie analytique à trois dimensions. Dérivées partielles. Prérequis: MATHQ 115 ou l'équivalent. Remarque: ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour MATH 209 ou 217.

MATHQ 215 Calcul intermédiaire II
★3 (3-0-0). Equations différentielles linéaires de premier et de second ordre avec coefficients constants. Courbes, vecteurs, tangentes, longueur de l'arc, intégration en deux et trois dimensions, coordonnées polaires, cylindriques et sphériques, intégrale de ligne et de surface, théorème de Green. Divergence et théorème de Stokes. Prérequis: MATHQ 214. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour MATH 209, 308, ou 317.

184.32 Musique/Music

184.32.1 Cours de musique

MUSIQ 100 Les rudiments de la musique
★3 (3-0-0). L'étude de la notation musicale et des rudiments de la musique. Introduction à la lecture élémentaire. Note: Les étudiants en BMus ne peuvent pas prendre ce cours.

MUSIQ 101 Introduction à la musique
★3 (3-0-0). Une étude de la littérature musicale en insistant sur l'audition et les moyens analytiques. Un bref survol historique de la musique occidentale.

MUSIQ 140 Ensemble
★3 (0-4L-0). Prérequis: accord du professeur après audition. Note: demi-cours qui s'étale sur les deux semestres.

MUSIQ 150 Théorie musicale I
★6 (3-0-0). Une étude de l'harmonie "classique" (c.-à-d. des XVIIe et XVIIIe siècles) qui inclut l'analyse élémentaire et une discussion préliminaire des éléments de la structure formelle, du contrepoint et de la texture chorale. Prérequis: MUSIQ 100 ou l'équivalent mesurable par un test de placement en théorie musicale de la Faculté.

MUSIQ 151 Culture de l'oreille et facilité au clavier I
★3 (0-3L-0). Perception auditive des matières couvertes en MUSIQ 150, par la mise en pratique de la lecture à vue, de la dictée et de l'harmonie au clavier. Prérequis: MUSIQ 100 ou l'équivalent mesurable par un test de placement en théorie musicale de la Faculté. Corequis: MUSIQ 150. Note: Un demi-cours qui s'étale sur les deux semestres.

MUSIQ 201 Les chefs-d'oeuvre de la musique
★3 (3-0-0). Une étude des plus grands chefs-d'oeuvre musicaux choisis pour représenter divers moyens d'expression et divers styles historiques. Prérequis: MUSIQ 101 ou l'équivalent.

MUSIQ 215 La musique au Canada
★3 (3-0-0). L'histoire de la musique au Canada de la colonisation jusqu'à nos jours. Prérequis: MUSIQ 101 ou l'équivalent.

MUSIQ 240 Ensemble
★3 (0-4L-0). Prérequis: Accord du professeur après audition. Note: demi-cours qui s'étale sur les deux semestres.

MUSIQ 440 Ensemble
★3 (0-4L-0). Prérequis: Accord du professeur après audition. Note: demi-cours qui s'étale sur les deux semestres.

184.32.2 Cours pour les programmes d'éducation

MUSIQ 103 Fondements de la musique
★3 (0-3L-0). L'acquisition et le développement de connaissances et d'habiletés musicales fondamentales nécessaires à l'enseignement élémentaire. Prérequis: MUSIQ 100 ou l'équivalent mesurable par un test sur les rudiments de la musique.

184.33 Philosophie/Philosophy

PHILE 121 Logique pratique
★3 (3-1s-0). Les procédés et les principes d'analyse des arguments. La matière du cours pourra inclure les sophismes informels, l'initiation à la méthode scientifique, le raisonnement statistique élémentaire, la logique "propositionnelle" élémentaire et les procédés susceptibles de mener à une décision rationnelle. Note: La priorité sera accordée aux étudiants du BA de la Faculté Saint-Jean.

PHILE 140 Introduction à la philosophie occidentale
★6 (3-0-0). Introduction aux principaux problèmes et théories qui ont dominé la pensée philosophique en Occident, par l'étude et la discussion critique de quelques classiques de la philosophie. Les lectures incluront la *République* de Platon et les *Méditations métaphysiques* de Descartes et une oeuvre majeure de Hobbes, Locke, Berkeley ou Hume.

Note: A moins d'indication contraire, il n'y a pas de prérequis formels pour les cours au niveau 200. Toutefois, les étudiants qui désirent s'inscrire à ces cours trouveront qu'il est très avantageux d'avoir d'abord suivi un cours de philosophie du niveau 100, tel le 121 ou le 140. Il est recommandé aux étudiants qui veulent poursuivre des études en logique formelle de consulter le paragraphe d'introduction a la §44 (Philosophy) de la Faculté des Arts.

PHILE 302 Une étude philosophique de l'être humain
★3 (3-0-0). Un regard sur l'être humain: sa connaissance, ses façons d'aimer.

PHILE 322 Epistémologie
★3 (3-0-0). Introduction aux questions visant la connaissance, surtout en ce qui concerne ses sources et sa justification. Ce cours comporte des sujets de discussion, tels le scepticisme et la certitude; la vérité, la foi ou la croyance et la justification; la connaissance du monde extérieur; la perception, la pensée et la mémoire; la connaissance a priori et empirique.

PHILE 323 Philosophie de l'esprit
★3 (3-0-0). Approches de la question de ce qu'est être une personne et posséder un esprit. On étudiera le rapport entre les idées philosophiques et les examens scientifiques des phénomènes mentaux. Parmi les sujets propres au cours: identité personnelle, mémoire, imagination, intention, désir, émotion et sensation, rapport entre le corps et l'esprit.

PHILE 326 Existentialisme
★3 (3-0-0). Vue d'ensemble systématique du fond historique, culturel et philosophique du mouvement existentialiste; étude détaillée de Kierkegaard, de Nietzche et de Husserl; examen des principaux thèmes généraux du mouvement (liberté, relations interpersonnelles, vie-mort, etc.) dans Heidegger, Jaspers, Sartre, Marcel, Camus et Merleau-Ponty.

PHILE 327 Philosophie récente de l'Europe continentale
★3 (3-0-0). Introduction à un ou plusieurs des mouvements post-existentialistes en Europe continentale, tels que la phénoménologie, l'herméneutique, la théorie critique, le structuralisme, le post-structuralisme, etc.

PHILE 339 Philosophie éthique I
★3 (3-0-0). Examen des questions de vrai et de faux, de bien et de mal et des raisons d'agir, par l'étude des théories éthiques d'auteurs tels que Platon, Aristote, Hobbes, Kant et J Stuart Mill.

PHILE 349 Esthétique: Philosophie des Arts
★3 (3-0-0). Introduction aux théories traditionnelles, par exemple, la théorie de l'expressionniste et du formaliste qui étudie la nature et la fonction des Arts. On examinera la nature de l'expérience esthétique.

PHILE 350 Esthétique: Philosophie du critique
★3 (3-0-0). Introduction aux fondements de l'art de la critique. Une attention spéciale sera donnée aux questions concernant les niveaux d'interprétation et d'évaluation des arts.

PHILE 357 Philosophie de la religion
★3 (3-0-0). Sujets généraux dans la philosophie de la religion; on choisira parmi les sujets suivants: le concept de "religion"; rapports entre philosophie et religion; arguments pour et contre l'existence de Dieu; sens et intelligibilité dans le langage religieux; religion et moralité; la religion et "le sens de la vie"; portée de l'étude de la religion sur les Sciences sociales.

PHILE 364 Introduction à la philosophie des sciences
★3 (3-0-0). Introduction aux principales questions dans la philosophie des sciences contemporaines: l'évolution des théories (la logique inductive, la confirmation des théories, l'approche historique de Kuhn et de Lakatos); l'explication, la réduction inter-théorique.

PHILE 365 Philosophie des sciences sociales
★3 (3-0-0). Un examen critique des théories au sujet de l'homme et de la société qui sont à la base des diverses sciences de l'homme et une évaluation des méthodes propres à ces disciplines.

PHILE 386 La bioéthique
★3 (3-0-0). Regard philosophique sur les problèmes majeurs de la bioéthique. Exemples: les droits et les devoirs du personnel hospitalier et du patient, l'euthanasie active et passive, le droit à la vie et l'avortement, la recherche et l'expérimentation en médecine humaine et animale, la manipulation génétique.

PHILE 447 Phénoménologie
★3 (3-0-0). Un aperçu des problèmes qui ont mené au développement de la méthode phénoménologique et une étude de cette méthode. Prérequis: PHILE 326 ou 327 ou l'accord du Doyen.

PHILE 471 Lecture dirigée I
★3 (3-0-0). Offert uniquement aux étudiants en BA Honneurs ou BA Spécial.

PHILE 473 Lecture dirigée II
★3 (3-0-0). Offert uniquement aux étudiants en BA Honneurs ou BA Spécial.

184.34 Physique/Physics

PHYSQ 141 Mécanique
★3 (3-0-3). Cinématique; dynamique d'une particule; travail et énergie; quantité de mouvement; cinématique et dynamique de rotation; équilibre des corps rigides. Prérequis: Physique 30, Mathématiques 30. Corequis: MATHQ 113, 114, 117.

PHYSQ 143 Les ondes et l'électricité
★3 (3-0-3). Mouvement périodique; ondulations; ondes sonores; charge électrique; champ électrique; potentiel électrique; loi de Gauss; capacité électrique; courant électrique; force électromotrice; circuits à courant continu. Prérequis: PHYSQ 141. Corequis: MATHQ 115, (118).

PHYSQ 271 Introduction à la physique moderne.
★3 (3-0-0). Rayonnement thermique et théorie quantique; l'hypothèse de Planck; l'effet photoélectrique et l'effet Compton; la relativité restreinte; la théorie atomique de Bohr; les rayons X; les propriétés ondulatoires des particules; l'expérience de Stern-Gerlach; les propriétés des noyaux; le processus de désintégration. Prérequis: PHYSQ 143 et MATHQ 115. Note: Les étudiants ne peuvent cumuler les crédits de PHYS 208 et PHYSQ 271.

PHYSQ 294 Laboratoire de physique moderne
★3 (0-0-3). Expériences en physique atomique et nucléaire. Prérequis: PHYSQ 143. Corequis: PHYSQ 271 et PHYSQ 301. Note: Demi-cours qui s'étale sur les deux semestres.

PHYSQ 301 Physique nucléaire et particules élémentaires.
★3 (3-0-0). Les sujets traités vont inclure les propriétés et la structure du noyau; datage par le carbone, technique du traceur isotopique; la fission et la fusion nucléaires; les réacteurs nucléaires; les particules élémentaires et les accélérateurs de particules. Prérequis: PHYSQ 271.

184.35 Psychologie/Psychology

PSYCE 104 (Science) Procédés psychologiques de base
★3 (3-0-1/4). Principes et développement de la perception, motivation, apprentissage et réflexion et leur relation avec le fonctionnement psychologique de l'individu. C cours est un prérequis pour la plupart des cours de psychologie et est normaleme suivi de PSYCE 105.

PSYCE 105 Comportement social et individuel
★3 (3-0-1/4). Introduction à l'étude de l'individualité humaine, de la personnalité des processus sociaux. Le cours peut inclure l'étude de quelques aspects développement humain normal et anormal, du jugement et du traitement psychologique Prérequis: PSYCE 104.

PSYCE 208 (Science) Psychologie générale expérimentale
★3 (3-0-3). Cours conçu pour les spécialisations en Arts et traitant de l'applicatio des méthodes expérimentales à un grand nombre de problèmes psychologique Prérequis: PSYCE 104.

PSYCE 223 Psychologie de la croissance
★3 (3-0-0). Les aspects biologiques, cognitifs et sociaux du développement psychologiqu de l'enfant et de l'adolescent. L'accent sera mis sur le développement du langage e de la pensée, et sur la relation qui existe entre eux. Prérequis: PSYCE 104/105 o l'équivalent.

PSYCE 233 Personnalité
★3 (3-0-0). Un aperçu des points de vue théoriques de représentation et travaux d recherches appliqués aux problèmes majeurs de l'étude de la personnalité. Prérequi PSYCE 104/105 ou équivalent.

PSYCE 241 Psychologie sociale
★3 (3-0-0). Introduction aux théories et à la recherche sur l'individu dans un context social. Prérequis: PSYCE 104/105 ou l'équivalent. Note: PSYCE 241 et SOC 24 peuvent être suivis tous les deux pour crédits.

PSYCE 275 (Science) Cerveau et comportement
★3 (3-0-0). Introduction à la fonction du cerveau et à son rapport à la sensation, a mouvement, à l'apprentissage, à la motivation et à la pensée. Prérequis: PSYCE 104

PSYCE 281 (Science) Principes du changement de comportement
★3 (3-0-0). Introduction aux techniques de changement de comportement. Le cou examinera l'origine de telles techniques dans l'expérimentation sur les animaux et l théorie de l'apprentissage, et fera une évaluation de leur efficacité quand elles so appliquées aux populations qui ont des problèmes spécifiques. Prérequis: PSYC 104.

PSYCE 339 Psychologie de l'anormalité
★3 (3-0-0). Introduction générale. Prérequis: PSYCE 233 et 241.

PSYCE 353 (Science) La mémoire et l'attention
★3 (3-0-0). Une introduction à l'étude des processus mentaux: la mémoir l'attention et la cognition. Les principaux sujets abordés sont: le traitement d'informatio visuelle, l'attention, la mémoire à court et à long terme, l'apprentissage et l compréhension du langage. Prérequis: PSYCE 104 ou 105 et SCSOC 322.

PSYCE 372 (Science) Comportement et génétique
★3 (3-0-0). Prérequis: PSYCE 104/105 et SCSOC 322 (ou PSYCO 211) et BIOLI 197, ou l'accord du Doyen.

PSYCE 392 Créativité
★3 (3-0-0). Théories et recherches relatives au processus de créativité, comprenan un essai de compréhension des manifestations du processus de créativité dan différents domaines. Prérequis: PSYCE 104/105. Note: ce cours n'est pas access ble aux étudiants ayant des crédits pour PSYCE 492.

PSYCE 458 Psychologie avancée de la cognition
★3 (3-0-0). A partir de recherches publiées, discussion d'un aspect particulier de cognition humaine (la lecture, le bilinguisme) en se servant de critères d'évaluatio théoriques et méthodologiques. Possibilité de recherche dirigée. Prérequis: SCSO 322 et PSYCE 233 et l'accord du professeur.

PSYCE 493 La phénoménologie et la recherche psychologique
★3 (3-0-2). Une étude approfondie des méthodes d'enquête des variations dans le descriptions d'expériences vécues, en insistant sur le développement, l'utilisation e la vérification de la validité de ces méthodes dans le contexte de la recherch psychologique. Recherche supervisée. Prérequis: PSYCE 104/105, SCSOC 322 e PSYCE 241 ou 223.

PSYCE 496 (Science) Etude personnelle I
★3 (1-0-3). Cours destiné à permettre aux étudiants d'approfondir personnellemer un sujet de leur choix (ce que le cadre d'un cours ne permet pas). Prérequis: accor du Doyen.

PSYCE 498 Etude personnelle II
★3 (3-0-0). Cours destiné à permettre aux étudiants au niveau du baccalauréa d'approfondir personnellement un sujet de leur choix. Sous forme de bibliographi dirigée ou de travaux de laboratoire. Prérequis: l'accord du Doyen.

184.36 Psychologie de l'éducation/Educational Psychology

PS ED 266 Introduction à l'apprentissage et au développement à l'école secondaire.
★3 (3-0-0). Etude du comportement de l'adolescent à travers les différentes étape de son développement. Les principaux thèmes abordés sont: l'adolescent en relatio avec son monde; les théories générales de l'adolescence; le développemer physique, intellectuel, affectif, social et moral de l'adolescent; théories générales d l'apprentissage et les différents facteurs qui influencent l'apprentissage en milie scolaire. Note: L'étudiant qui a reçu des crédits en PSYCE 104/105 ou l'équivaler doit suivre un demi cours senior en psychologie de l'éducation autre que PS ED 36 L'étudiant qui a reçu des crédits dans l'un ou l'autre des cours PSYCE 104/105 do suivre PS ED 266.

PS ED 267 Introduction à l'apprentissage et au développement à l'école élémentaire
★3 (3-0-0). Etude du comportement de l'enfant à travers les différentes étapes d son développement. Les notions de développement physique, intellectuel, social moral sont abordées en relation avec le comportement en milieu scolaire. Définitio de l'apprentissage et étude de la relation de l'apprentissage avec d'autres phénomène

chologiques tels que l'intelligence, la motivation, la maturation et leurs applica-
is dans l'enseignement. Note: L'étudiant qui a reçu des crédits en PSYCE 104/
ou l'équivalent doit suivre un demi cours senior en psychologie de l'éducation
re que PS ED 367. L'étudiant qui a reçu des crédits dans l'un ou l'autre des cours
YCE 104/105 doit suivre PS ED 267.

ED 366 Apprentissage et développement à l'école secondaire
(3-0-0). Ce cours souligne les divers aspects de la psychologie et de l'adolescence.
erçu de l'état des recherches en psychologie de l'adolescent dans le but de
velopper une compréhension de l'adolescent en relation avec son monde. Le
irs invite les futurs enseignants à prendre conscience du monde de l'adolescent
réfléchir sur les pratiques pédagogiques qui sont utilisées en milieu scolaire. Ce
irs est réservé aux étudiants du BEd/AD.

ED 367 Apprentissage et développement à l'école élémentaire
(3-0-0). Ce cours souligne la connaissance et la compréhension du monde de
fant: son développement, ses intérêts et ses besoins. Le cours essaie de faire le
entre les diverses théories de développement et d'apprentissage et le monde de
fant. Aperçu de l'état des recherches en psychologie de l'enfant dans le but de
velopper une compréhension du monde de l'enfant. Le cours invite les futurs
seignants à prendre connaissance du monde de l'enfant et à réfléchir sur les
itiques pédagogiques qui sont utilisées en milieu scolaire. Ce cours est réservé
étudiants du BEd/AD.

ED 467 Apprentissage et développement à l'école élémentaire
(3-0-0;0-0-3). Prérequis: PS ED 266 ou 267 ou l'équivalent.

ED 468 Apprentissage et développement à l'école élémentaire
(3-0-3). Prérequis: PS ED 266 ou 267 ou l'équivalent.

ED 469 Développement humain et éducation
(3-0-0). Prérequis: PS ED 266 ou 267 ou l'équivalent.

ED 471 Apprentissage et enseignement
(3-0-0). Prérequis: PS ED 266 or 267 ou l'équivalent.

ED 473 Langue et cognition dans l'éducation de l'enfant
(3-0-0). Prérequis: PS ED 266 ou 267 ou l'équivalent.

ED 477 Bilinguisme et cognition dans l'éducation de l'enfant
(3-0-0). Théories et recherches relatives au processus d'acquisition du bilinguisme
ns les programmes d'immersion et les programmes francophones. L'évaluation du
veloppement du bilinguisme inclut les dimensions socio-linguistiques et socio-
iturelles.

ED 482 Sensibilisation aux difficultés d'apprentissage chez l'enfant d'âge olaire
(3-0-0). Concepts d'apprentissage et de difficultés d'apprentissage. Etude des
ficultés d'apprentissage les plus fréquentes en milieu scolaire. Impact de ces
ficultés sur la vie émotive de l'enfant, sur sa vie à l'école, sur les parents, et sur la
mille en général. Possibilités d'interaction et d'aide de l'enseignant face à ces
ficultés. Prérequis: PS ED 267 ou 367 ou l'accord du responsable de pédagogie.

ED 483 Sensibilisation aux élèves doués et talentueux
(3-0-0). Définitions et concepts de douance. Moyens de dépistage. Etude du
veloppement social, affectif et cognitif de l'enfant doué et talentueux. L'étude de la
namique de l'enfant doué et talentueux dans son milieu. Analyse des modèles
richissement et d'accélération. Prérequis: PS ED 267 ou 367 ou l'accord du
sponsable de pédagogie.

ED 487 Principes d'évaluation des classes
(3-0-0). Prérequis: PS ED 266 ou 267 ou l'autorisation du Doyen.

ED 489 Elaboration des tests pour les enseignants
(3-0-0). Prérequis: PS ED 266 ou 267 ou l'autorisation du Doyen.

ED 495 La communication interpersonnelle pour les enseignants
(0-3L-0).

ED 497 Séminaires "senior"
(3-0-0). Prérequis: PS ED 266 ou 267 ou l'équivalent. Le contenu du cours varie
une année à l'autre.

ED 499 Etude individuelle dirigée en psychologie de l'éducation
(3-0-0). Prérequis: l'autorisation du Doyen.

184.37 Science politique/Political Science

C PO 101 Introduction au Gouvernement
(3-0-0). Une introduction aux institutions gouvernementales du Canada et
illeurs. Sujets étudiés: constitutions, assemblées législatives, organes exécutifs,
nction publique, cours de justice, gouvernement fédéral et d'autres sujets choisis.
e cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour
OL S 100 à la Faculté des Arts.

C PO 102 Introduction à la politique
(3-0-0). Une introduction au développement de la tradition démocratique. Sujets
tudiés: pouvoir ou influence, démocratie, droits et libertés, idéologie politique,
pinion publique, élections, partis politiques, groupes de pression et autres sujets
hoisis. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits
our POL S 100 à la Faculté des Arts.

C PO 320 Gouvernement et politique du Canada en tant que nation
6 (3-0-0). Structures et fonctions du Gouvernement du Canada et en particulier les
ommunes, le Sénat, le Cabinet, la Fonction publique, les partis politiques. Note: ce
ours n'est pas accessible aux étudiants ayant ou postulant des crédits pour POL S
21.

C PO 380 Politique comparée
3 (3-0-0). Introduction à des thèmes de politique comparée.

C PO 388 La politique dans les états plurilingues
3 (3-0-0). Analyse des problèmes politiques des états plurilingues et des solutions
ces problèmes.

C PO 421 Problèmes relatifs au gouvernement canadien
3 (3-0-0). Discussion de certains problèmes relatifs au gouvernement au Canada,
otamment ceux qui découlent du bilinguisme officiel. Prérequis: SC PO 320 ou l'accord du Doyen. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits en ETCAN 421.

SC PO 423 Fédéralisme canadien
★3 (3-0-0). Analyse du développement et des théories du fédéralisme canadien. On étudiera en particulier les problèmes actuels du système fédéral. Prérequis: SC PO 320 ou l'accord du Doyen.

SC PO 428 Gouvernement et politique des provinces
★3 (3-0-0). Etude des structures, des fonctions et des processus de certains gouvernements provinciaux au Canada. Prérequis: SC PO 320 ou POL S 321, ou l'accord du Doyen.

184.38 Sciences sociales/Social Sciences

SCSOC 311 Histoire de la pensée politique et sociale I
★3 (3-0-0). Survol historique et critique du développement de la pensée politique et sociale, de l'Antiquité à la Renaissance, en utilisant des textes choisis de quelques philosophes présocratiques (Héraclite, Parménide), Platon, Aristote, Boèce, Abélard, Thomas d'Aquin, Machiavel, Erasme. Note: Ce cours faisait partie de SCSOC 310. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour PHIL 333 ou POL S 310.

SCSOC 312 Histoire de la pensée politique et sociale II
★3 (3-0-0). Etude des principaux aspects de la pensée politique et sociale du XVIIe siècle à nos jours, centrée sur l'évolution du libéralisme, de ses différentes tendances et des réactions d'opposition qu'il a suscitées. Seront abordées les oeuvres de Hobbes, Locke, Montesquieu, Rousseau, Voltaire, Payne, Adam Smith, Tocqueville, Marx, Weber, Durkheim et Louis Hartz. Note: Ce cours faisait partie de SCSOC 310. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour PHIL 334, POL S 310 ou SOC 332.

SCSOC 321 Méthodes de recherche en sciences sociales
★3 (3-0-2). Initiation à quelques notions d'épistémologie concernant les sciences sociales et à quelques méthodes de recherche: principaux critères de la méthode scientifique et distinction avec les sciences exactes; construction des hypothèses et analyse conceptuelle; planification de la recherche et utilisation des documents; techniques de l'entrevue participante, de l'échantillonnage et de l'analyse de contenu. Note: Ce cours faisait partie de SCSOC 320. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour PSYCE 208, SOC 315 ou POL S 317.

SCSOC 322 Statistiques pour les sciences sociales
★3 (3-0-2). Application des méthodes statistiques à certains problèmes en sciences sociales. Interprétation des données en termes de moyennes, de mesures de variabilité et de mesures de relation: études de la théorie de l'échantillonnage et des tests d'hypothèses statistiques. Note: Ce cours faisait partie de SCSOC 320. Prérequis: Mathématiques 30 et SCSOC 321 ou l'accord du doyen. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour POL S 316, PSYCE 211, SOC 210, STATQ 141, STAT 155, 235, 236, 237 ou 255.

SCSOC 401 Concepts en sciences sociales
★3 (3-0-0). Analyse interdisciplinaire de concepts fondamentaux utilisés pour étudier la personne et les sociétés humaines, comme la culture, le langage, l'ethnie, l'autorité, l'idéologie, la classe, l'organisation, l'espace, la cognition, la production et la pénurie.

SCSOC 421 Modèles en sciences sociales
★3 (3-0-0). Etude de la technique de construction de modèles et étude de certains modèles couramment employés dans les sciences sociales; on étudiera, entre autres, un modèle du choix rationnel en condition de risque, un modèle de courbe d'indifférence de l'échange, un modèle stochastique de l'apprentissage et un modèle épidémiologique de diffusion.

184.39 Sociologie/Sociology

SOCIE 100 Introduction à la sociologie
★3 (3-0-0). Examen de la théorie, des méthodes et de la substance de la sociologie. Étude de la façon dont les sociétés comprennent la culture, la socialisation, la déviance, la stratification et les groupes. Le procès de transformation sociale par les mouvements sociaux, l'industrialisation, etc. Note: Les étudiants en 3e année ou plus avancés devraient prendre SOC 300 plutôt que SOCIE 100.

SOCIE 101 La société canadienne
★3 (3-0-0). Le développement de la société canadienne: comprenant des sujets comme les rapports franco-anglais, le régionalisme, les rapports avec les États-Unis, les droits des autochtones, la mosaïque canadienne, les inégalités et les conflits. Prérequis: SOCIE 100 ou SOC 300. Note: Ce cours n'est pas accessible aux étudiants ayant des crédits pour SOCIE 322.

SOCIE 102 Problèmes sociaux
★3 (3-0-0). Examen des problèmes sociaux, en mettant l'accent sur leur structuration sociale; choix de problèmes structuraux et comportementaux (ex. inégalité sociale, relations entre groupes, usage de la drogue, incapacités mentales et physiques); réponses sociales aux problèmes sociaux. Prérequis: SOCIE 100 ou SOC 300. Note: ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour SOCIE 321.

SOCIE 260 Inégalité et stratification sociales
★3 (3-0-0). Introduction à l'étude des inégalités sociales structurées et de la pauvreté; approches théoriques majeures; conclusions des études empiriques clés, en mettant l'accent sur le Canada. Prérequis: SOCIE 100 ou SOC 300.

SOCIE 261 Organisation sociale
★3 (3-0-0). Les systèmes sociaux, leurs composantes et leurs interrelations, les fondements de la différenciation et de l'intégration sociale. Prérequis: SOCIE 100 ou SOC 300.

SOCIE 301 Sociologie des rapports de sexes
★3 (3-0-0). Etude comparée des rapports entre les femmes et les hommes dans

certaines sociétés, en mettant l'accent sur le Canada contemporain; étude des rôles spécifiques à chaque sexe, et des théories relatives à leurs origines; recherche sociologique récente sur l'importance de la division sexuelle de la société.

SOCIE 367 La connaissance et la société humaine
★3 (3-0-0). Nature et évaluation de la connaissance (ex. valeurs et systèmes de croyances manifestes dans l'art, les sciences, la technologie) dans le contexte de régimes sociaux; le lien entre les systèmes rivaux de connaissance et l'évolution sociale. Prérequis: SOCIE 100 ou SOC 300.

SOCIE 368 Etude des minorités et des groupes ethniques
★3 (3-0-0). Analyse de processus sociaux qui permettent le développement et la compréhension du statut des minorités. Etude de cas des relations entre les groupes ethniques et minoritaires fondée sur les travaux réalisés à l'échelle nationale. Prérequis: SOCIE 100 ou SOC 300.

SOCIE 371 La famille
★3 (3-0-0). Le système familial vu dans le contexte de l'histoire et de la rencontre des cultures. Etude du système familial dans les sociétés contemporaines, soulignant les aspects caractéristiques de l'institution et ses tendances actuelles. Prérequis: SOCIE 100, 101, ou SCSOC 401

SOCIE 372 Sociologie du développement canadien
★3 (3-0-0). Diverses approches pour comprendre la dynamique de la société canadienne comme les produits primaires, les élites, les mouvements sociaux et l'économie politique, et la théorie critique. Prérequis: SOCIE 101.

SOCIE 402 Choix de sujets en sociologie
★3 (3-0-0). Le contenu varie d'une année à l'autre. Les sujets sont annoncés avant la période d'inscription. Prérequis: SOCIE 101 ou SOC 300.

SOCIE 467 Classes sociales de la société moderne
★3 (3-0-0). Evolution de la structure des classes dans les sociétés occidentales; théories récentes et découvertes empiriques dans le domaine de la mobilité sociale, des limites de classe, de la conscience de classe et des conflits de classe. Prérequis: SOCIE 260.

SOCIE 471 Systèmes familiaux comparés
★3 (3-0-0). L'étude comparative des systèmes familiaux, principalement dans des sociétés complexes contemporaines; concepts, théories, méthodologies et connaissances empiriques sur les similarités et les différences entre systèmes familiaux. Prérequis: SOCIE 371 (ou FAM 241 seulement pour les étudiants en Home Economics).

SOCIE 472 Choix de sujets — la société canadienne
★3 (3-0-0). Prérequis: SOCIE 260 ou 372.

SOCIE 480 Changement social
★3 (3-0-0). Signification du changement dans les systèmes sociaux et culturels; théories du changement social; problèmes des changements introduits dans certaines cultures. Prérequis: SOCIE 260 ou 261 ou SOC 332 ou 333.

184.40 Statistique/Statistics

STATQ 141 Introduction à la statistique
★3 (3-0-0). Variables aléatoires et distribution des fréquences. Distribution des échantillons et inférence élémentaire. Tables des éventualités (contingences) et test d'indépendance. Régression et corrélation. Analyse de la variance. Prérequis: Mathématiques 30 ou équivalent. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour STAT 155, 235, 236, 237, 255, 265, PSYCO 211 (309) ou SCSOC 322.

184.41 Zoologie/Zoology

ZOOLE 120 Principes de biologie animale
★3 (3-0-3). Introduction à la structure, à la fonction et à la phylogénèse des animaux. Une attention particulière sera portée sur la régulation du métabolisme, la reproduction et le développement, ainsi que sur les interactions entre les organismes. Prérequis: Biologie 30. Ce cours ne pourra être crédité aux étudiants ayant déjà obtenu des crédits en BIOL 296 et 299.

85 Bourses

85.1 Prix aux Diplômés

Voir les §§222.1.1 et 222.2.1 de l'annuaire de l'Université pour les renseignements généraux concernant les bourses d'immatriculation et les bourses du baccalauréat.

a Médaille d'or des Pères Oblats
onditions: Décernée annuellement au finissant de l'un des programmes de la aculté Saint-Jean:

) qui a fait preuve d'excellence au cours de ses études sur la base d'un minimum de 60 crédits (ou leur équivalent) alors qu'il était inscrit dans cette institution;

:) de nationalité canadienne ou ayant le statut de résident permanent;

l) et qui possède une maîtrise de la langue française.

onateur : Le Fonds St-Jean.

a Médaille d'or Marie-Louise Brugeyroux
'onditions: Décernée annuellement au finissant en éducation qui, au cours de ses eux dernières années, s'est distingué dans ses études et a fait preuve d'excellence ors de son enseignement pratique.
onateur : The Alberta Teachers' Association

'rix du Consul général de France (Livres)
lomaine d'études: Toute discipline à la Faculté Saint-Jean autre que langue et ittérature françaises.
lombre: 1.
Conditions: Décerné annuellement au finissant de la Faculté Saint-Jean qui obtient a moyenne la plus élevée dans un des programmes du premier cycle, pour des tudes suivies en français dans toute discipline autre que langue et littérature rançaises.
Donateur : Le Consul général de France

'rix du Consul général de France en langue et littérature rançaises (Livres)
Domaine d'études: Un programme de langue et littérature françaises à la Faculté aint-Jean
Nombre: 1.
Conditions: Décerné annuellement au finissant de la Faculté Saint-Jean qui obtient a moyenne la plus élevée dans un programme de BA ou de BEd avec une pécialisation en langue et littérature françaises.
Donateur : Le Consul général de France.

85.2 Bourses au niveau du Baccalauréat

Prix du Bureau des Gouverneurs pour la Faculté Saint-Jean
Valeur : 200$ chacun.
Condition: Décerné à l'étudiant qui obtient la plus haute moyenne à la fin des remière, deuxième, et troisième années à la Faculté. Si deux étudiants ou plus sont x aequo, chacun recevra la totalité du prix.
Donateur : Fonds de successions échu à l'Université de l'Alberta.

85.3 Bourses d'immatriculation

Bourse Jean Patoine
Domaine d'études: Programmes du premier cycle à la Faculté Saint-Jean.
Valeur : 1,800$
Nombre: 1
Conditions: Décernée annuellement à un(e) albertain(e) de langue maternelle française admis(e) à la Faculté Saint-Jean sur la base du travail accompli au niveau secondaire et de sa contribution à la vie étudiante et communautaire.
Donateurs: Le Fonds de bourse Jean Patoine a été créé en 1987 grâce aux généreux dons du Fonds Jean Patoine et du Club Richelieu.
Date limite de la demande: Au plus tard le 30 avril de chaque année.
Toute demande devra parvenir au Comité de sélection du Fonds de bourse Jean Patoine, a/s Bureau du Doyen, Faculté Saint-Jean.

Bourse des Soeurs de l'Assomption de la Sainte Vierge
Domaine d'études: Programme de BEd à la Faculté Saint-Jean.
Valeur : 700$
Nombre: 1
Conditions: Décernée annuellement à une personne de langue maternelle française de l'Alberta ou de la Saskatchewan qui s'inscrit à temps plein à la Faculté Saint-Jean dans le programme de baccalauréat en éducation. La personne sera choisie d'après sa qualité de son dossier scolaire et de sa contribution à la vie communautaire. Une attention toute spéciale sera accordée aux demandes de personnes dans le besoin.
Donateur: Les Soeurs de l'Assomption de la Sainte Vierge.
Date limite de la demande: Au plus tard le 30 avril de chaque année.
Toute demande devra parvenir au Comité de sélection, Bourse des Soeurs de l'Assomption de la Sainte Vierge, a/s Bureau du Doyen, Faculté Saint-Jean.

185 Awards

185.1 Graduating Awards

See §§222.1.1 and 222.2.1 for general information concerning matriculation and undergraduate awards.

The Oblate Fathers Gold Medal
Conditions: Awarded annually to the graduating student from any of the programs in Faculté Saint-Jean, who:

(1) has shown the highest distinction in scholarship on a minimum of 60 units of course weight while registered at this institution;

(2) is a Canadian citizen or permanent resident;

(3) is deemed to have mastered the French language.

Donor : Le Fonds St-Jean.

The Marie-Louise Brugeyroux Gold Medal
Conditions: Awarded annually to the graduating student who, in the final two years of the Bachelor of Education program, has shown superior academic achievement and proficiency in the education practicum.
Donor : The Alberta Teachers' Association

The Consul General of France's Book Prize
Field of study : Faculté Saint-Jean program other than French Language and Literature
Number : 1
Conditions: To be awarded annually to the graduating student from Faculté Saint-Jean achieving the highest academic standing in an undergraduate program for studies done in French in any discipline other than French language and literature.
Donor : The Consul General of France.

The Consul General of France's Book Prize in French Language and Literature
Field of study : Faculté Saint-Jean program in French Language and Literature.
Number : 1
Conditions: To be awarded annually to the graduating student from Faculté Saint-Jean who achieves the highest academic standing in a BA or BEd program with specialization in French language and literature.
Donor : The Consul General of France.

185.2 Undergraduate Awards

The Board of Governors Prizes for Faculté Saint-Jean
Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first, second and third year of the Faculté. If two or more students are equal for first place, each will receive a full award.
Donor : The Escheated Estates Fund of the University of Alberta.

185.3 Matriculation Awards

The Jean Patoine Scholarship
Field of Study : Undergraduate programs at Faculté Saint-Jean.
Value: $1,800.
Number : 1
Conditions: To be awarded annually to an Albertan, entering Faculté Saint-Jean, whose first language is French. Based upon academic standing and extracurricular involvement.
Donors : Endowed by the Fonds Jean Patoine and the Club Richelieu in 1987.
Apply: Applications must be received by April 30. Send application to the Comité de sélection, Jean Patoine Scholarship, a/s Doyen, Faculté Saint-Jean.

The Soeurs de l'Assomption de la Sainte Vierge Scholarship
Field of Study: BEd program at Faculté Saint-Jean.
Value: $700.
Number: 1
Conditions: To be awarded annually to a person from Alberta or Saskatchewan who registers as a full-time student at Faculté Saint-Jean in the Bachelor of Education program and whose first language is French. Based upon academic standing and extracurricular involvement. Financial need of the student is given special consideration.
Donor: The Soeurs de l'Assomption de la Sainte Vierge.
Apply: Applications must be received by April 30. Send application to the Comité de sélection, Bourse des Soeurs de l'Assomption, a/s Doyen, Faculté Saint-Jean.

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Science

Faculty of Science

91 Introductory

91.1 Members of the Faculty

91.1.1 Officers of the Faculty

an
J McDonald, PhD

sociate Deans
D Beatty, PhD
A Chambers, PhD
I Crawford, PhD

sistant Dean
E Williams, BSc

udent Services Officer
M Stanley, BA

91.1.2 Honorary Professors of Science

A Jacobs, DSc
W Stewart, PhD, FRSC, FRS, DSc

91.1.3 Botany

rofessor and Chair
E Denford, PhD

illiam Memorial Professor of Science
W Schindler, DPhil

rofessors Emeriti
V Möser, PhD
G Packer, PhD

rofessors
D Cass, PhD
A Cossins, PhD, DSc, FRSC
M Hickman, PhD
H La Roi III, PhD
A Stockey, PhD
H Vitt, PhD

ssociate Professors
J Bayer, PhD
E Bayley, PhD
RT Dale, PhD
J Gifford, PhD
D Hoddinott, PhD
J Taylor, PhD (NSERC University Research Fellow)

esearch Associate
S Currah, PhD

djunct Professors
Currah, PhD
HR Henry, PhD
W Wein, PhD

191.1.4 Chemistry

rofessor and Chair
G Kratochvil, PhD

ssistant Chair
M Armour, PhD

niversity Professor
U Lemieux, PhD, FRSC, FRS

Professors Emeriti
WF Allen, PhD
SG Davis, PhD
HE Gunning, PhD, FRSC
WE Harris, PhD, FRSC
RB Sandin, PhD, FRSC
OP Strausz, PhD

Professors
WA Ayer, PhD, FRSC
JE Bertie, PhD
RS Brown, PhD
FF Cantwell, PhD
RG Cavell, PhD
DLJ Clive, PhD
M Cowie, PhD
RJ Crawford, PhD (Associate Dean of Science)
HB Dunford, PhD
S Fraga, DSc
GR Freeman, PhD, DPhil
WAG Graham, PhD, FRSC
LG Hepler, PhD
J Hooz, PhD
G Horlick, PhD, FRSC
S Huzinaga, DSc
RB Jordan, PhD
P Kebarle, PhD, FRSC
KR Kopecky, PhD
G Kotovych, PhD
H-J Liu, PhD
JW Lown, PhD
RED McClung, PhD
J Takats, PhD
DD Tanner, PhD
WR Thorson, PhD
JC Vederas, PhD

Associate Professors
BL Clarke, PhD
NJ Dovichi, PhD
DJ Harrison, PhD
O Hindsgaul, PhD
AH Kalantar, PhD
M Keil, PhD
JS Martin, PhD
JA Plambeck, PhD

Assistant Professors
MD Hollingsworth, PhD
AD Hunter, PhD
MA Klobukowski, PhD
L Li, PhD

Adjunct Professor
K Newman, PhD

191.1.5 Computing Science

Professor and Chair
PG Sorenson, PhD

Associate Professor and Associate Chair
UM Maydell, MSc

Professors
WW Armstrong, PhD
WA Davis, PhD
TA Marsland, PhD
FJ Pelletier, PhD
KW Smillie, PhD
J Tartar, PhD [Associate Vice-President (Academic)]

Associate Professors
WS Adams, MSc
S Cabay, PhD
JC Culberson, PhD
W Dobosiewicz, PhD
R Elio, PhD
RG Goebel, PhD
MW Green, PhD
X Li, PhD
MT Özsu, PhD
J Schaeffer, PhD

Assistant Professors
A Basu, MA
ES Elmallah, PhD
P Gburzynski, PhD
HJ Hoover, PhD
B Joe, PhD
AE Kamal, PhD
P Rudnicki, PhD
LK Stewart, PhD
DA Szafron, PhD
PG van Beek, MMath
J-H You, PhD
L-Y Yuan, PhD
H Zhang, PhD

Adjunct Professor
LK Schubert, PhD

191.1.6 Genetics

Professor and Acting Chair
J Kuspira, PhD

Professor and Chair
D Nash, PhD

Professors Emeriti
R Aksel, Doctor of Agriculture
J Kuspira, PhD
J Weiger, PhD

Professors
A Ahmed, PhD
JB Bell, PhD
PJ Hastings, PhD
RB Hodgetts, PhD
MA Russell, PhD
RC von Borstel, PhD

Associate Professors
FE Nargang, PhD
LJ Reha-Krantz, PhD (Alberta Heritage Scholar)

Assistant Professors
WR Addison, PhD
AG Good, PhD
J Locke, PhD
HE McDermid, PhD
DB Pilgrim, PhD

Adjunct Professors
RS Day, PhD
CC Lin, PhD
MC Paterson, PhD
R Ruth, PhD
RS Sadasivaiah, PhD
AA Szalay, PhD

191.1.7 Geography

Professor and Chair
J Shaw, PhD

Professor and Associate Chair
KJ Fairbairn, PhD

Professors Emeriti
KD Hage, PhD
JJ Klawe, MA
AH Laycock, PhD
ER Reinelt, PhD
WC Wonders, PhD, FilDr, FRSC

Professors
IA Campbell, PhD
JH England, PhD
MJ Hodgson, PhD
RG Ironside, PhD
EL Jackson, PhD
LA Kosinski, PhD
EP Lozowski, PhD
HJ McPherson, PhD
PJ Smith, PhD

Associate Professors
RB Charlton, PhD
JR Eyton, PhD
DB Johnson, PhD
RB Rains, PhD
NRM Seifried, PhD
OFG Sitwell, PhD
JD Wilson, PhD

Assistant Professors
DH Halliwell, PhD
GHR Henry, PhD
GP Kershaw, PhD
G Reuter, PhD

Adjunct Professor
GK Allred
AB Beaudoin, PhD
J Burns, PhD
SC Zoltai, BSc

191.1.8 Geology

Professor and Chair
BDE Chatterton, PhD

Professor and Associate Chair
BE Nesbitt, PhD

Professors Emeriti
RE Folinsbee, PhD, FRSC
J Krupicka, RNDr
CR Stelck, PhD, FRSC

Professors
H Baadsgaard, PhD
RA Burwash, PhD
HAK Charlesworth, PhD
DM Cruden, PhD
RC Fox, PhD
B Jones, PhD
R St J Lambert, PhD
JF Lerbekmo, PhD
RD Morton, PhD
BE Nesbitt, PhD
SG Pemberton, PhD
NW Rutter, PhD
DGW Smith, PhD
J Toth, PhD

Associate Professors
P Erdmer, PhD
TF Moslow, PhD

Assistant Professors
T Chacko, PhD
RW Luth, PhD
H-G Machel, PhD

Adjunct Professors
GW Bird, PhD
JH England, PhD
ME Evans, PhD
MM Fenton, PhD
WD Gunter, PhD
BG Naylor, PhD
FW Shwartz, PhD
CE Schweger, PhD
RA Stockey, PhD
PR Tremaine, PhD
DWR Wilson, PhD
MVH Wilson, PhD

Note: §191.1.9 reserved.

191.1.10 Mathematics

Professor and Chair
RD Bercov, PhD

Professor and Associate Chair
W Allegretto, PhD

Associate Professor and Associate Chair
I Baggs, PhD

Professors Emeriti
WJ Bruce, PhD
DR Crosby, PhD
T Fostvedt, MSc
J Jacka, MSc
MS Klamkin, MSc
HFJ Lowig, Dsc
RL McKinney, PhD
E Phibbs, MA
JR Pounder, PhD
A Sharma, PhD
MV Subbarao, PhD
M Wyman, PhD

Professors
HL Abbott, PhD
BN Allison, PhD
WA Al-Salam, PhD
KF Andersen, PhD
PL Antonelli, PhD
HH Brungs, PhD
Z Ditzian, PhD
LH Erbe, PhD
HI Freedman, PhD
KM Garg, PhD
CS Hoo, PhD
HP Kunzle, PhD
AT Lau, PhD
G Ludwig, PhD
JW Macki, PhD
A Meir, PhD
RF Millar, PhD
TB Moodie, PhD, FIMA
RV Moody, PhD, FRSA
JW Moon, PhD
JS Muldowney, PhD
MN Oguztoreli, PhD
AH Rhemtulla, PhD
SD Riemenschneider, PhD
TD Rogers, PhD
SK Sehgal, PhD
RJ Tait, PhD
JG Timourian, PhD
N Tomczak-Jaegermann, PhD
AR Weiss, PhD
SW Willard, PhD
V Zizler, RNDr, PhD

Associate Professors
NA Al-Salam, PhD
FA Baragar, PhD
GA Chambers, PhD (Associate Dean of Science)
GH Cliff, PhD
GC Cree, PhD
JE Lewis, PhD
AC Liu, PhD
RL McKinney, PhD
MG Murdeshwar, PhD
A Pianzola, PhD
G Swaters, PhD
YS Wong, DPhil
W-S Young, PhD

Assistant Professors
M Kovalyov, PhD
W Krawcewicz, PhD
M Légaré, PhD
LW Marcoux, PhD
G Peschke, PhD
A Pianzola, PhD
RA Poliquin, PhD
M Shirvani, PhD
S Sivaloganathan, PhD
JW-H So, PhD
G Swaters, PhD
MJ Van Roessel, PhD

Adjunct Professors
H Kharaghani, PhD
MA Walker, PhD

191.1.11 Microbiology

Professor and Chair
W Paranchych, PhD

Professors Emeriti
DWS Westlake, PhD
T Yamamoto, PhD

Professors
JN Campbell, PhD
PM Fedorak, PhD
SE Jensen, PhD (Alberta Heritage Scholar)
WJ Page, PhD
MA Pickard, PhD
KL Roy, PhD
GW Stemke, PhD
RG von Tigerstrom, PhD

Associate Professor
LS Frost, PhD

Assistant Professor
H Anwar, PhD

Adjunct Professors
ME Stiles, PhD
DE Taylor, PhD
BG Thompson, PhD
WM Wenman, MD

191.1.12 Physics

Professor and Chair
HR Glyde, DPhil

Professor and Associate Chair
HS Sherif, PhD

Killam Memorial Professor of Science
H Umezawa, PhD, FRSC

University Professor
W Israel, PhD, FRSC, FRS

Professors Emeriti
DI Gough, PhD, FRSC
KB Newbound, PhD
GS Neilson, PhD
D Rankin, PhD
H Schiff, PhD
SB Woods, PhD

Professors
JG Adler, PhD
W Brouwer, PhD
AZ Capri, PhD
GL Cumming, PhD
RF Egerton, PhD
ME Evans, PhD
JP Franck, DrerNat
J Gray, PhD
LG Greeniaus, PhD
F Hron, DNatSci
DP Hube, PhD
DG Hughes, PhD
FW Jones, PhD
AN Kamal, PhD
ER Kanasewich, PhD, FRSC
JA Kernahan, PhD (Associate Dean of Graduate Studies and Research)
FC Khanna, PhD
P Kitching, PhD
WJ McDonald, PhD (Dean of Science)
E Nyland, PhD
WC Olsen, PhD
DN Page, PhD
BV Paranjape, PhD
EH Pinnington, PhD
MM Razavy, PhD
G Rostoker, PhD
G Roy, PhD
JC Samson, PhD
SS Sheinin, PhD
J Stephenson, PhD
Y Takahashi, DSc
FL Weichman, PhD

Associate Professors
JR Beamish, PhD
BA Campbell, PhD
ZW Gortel, PhD
JS Rogers, PhD
W Rozmus, PhD
TJT Spanos, PhD
JA Tuszynski, PhD

Assistant Professors
JA Jung, PhD
NL Rodning, PhD
DR Schmitt, PhD
JA Tuszynski, PhD

TRIUMF Research Scientists
R Abegg, PhD
P Green, PhD
DP Gurd, PhD
DA Hutcheon, PhD
CA Miller, PhD
GM Stinson, PhD

Laboratory Supervisor
DJ Austen, PhD

Adjunct Professors
PS Allen, PhD
LJ Filipow, PhD
HR Hooper, PhD
D Menon, PhD
TR Overton, PhD
JW Scrimger, PhD
RE Sneider, PhD
SR Usiskin, PhD

191.1.13 Psychology

Professor and Chair
E Lechelt, PhD

University Professor
TM Nelson, PhD

Professors Emeriti
WA Blanchard, PhD
E Howarth, PhD
WN Runquist, PhD
DE Smith, PhD
D Spearman, PhD
P Swartz, PhD
TE Weckowicz, PhD

Professors
CH Beck, PhD
CM Bourassa, PhD
EH Cornell, PhD
V Di Lollo, PhD
WF Epling, PhD
D Grant, PhD
D Kuiken, PhD
F Morrison, PhD
L Mos, PhD
WW Rozeboom, PhD
BG Rule, PhD
SJ Rule, PhD
DL Wahlsten, PhD

Associate Professors
G Bisanz, PhD
JH Bisanz, PhD
P Dixon, PhD
AR Dobbs, PhD
M Enzle, PhD
AR Friedman, PhD
CD Heth, PhD
C Hoffman, PhD
A Robertson, PhD
BK Sinha, PhD
ML Spetch, PhD
D Treit, PhD
RE Walley, PhD

Assistant Professors
WF Bishop, PhD
M Dawson, PhD
F Ferreira, PhD
JM Henderson, PhD
J Jutai, PhD

191.1.14 Statistics and Applied Probability

Professor and Chair
KL Mehra, PhD

Professor Emeritus
GG Ghurye, PhD

Professors
AN Al-Hussaini, PhD
RJ Elliott, PhD
IR McGregor, PhD

Associate Professor
E-E Aly, PhD
PM Hooper, PhD
DH Kelker, PhD
DP Wiens, PhD

Assistant Professors
E Gombay, PhD
RJ Karunamuni, PhD
NGN Prasad, PhD
B Schmuland, PhD
JN Sheahan, PhD

191.1.15 Zoology

Professor and Chair
RE Peter, PhD, FRSC

Associate Professor and Associate Chair
WR Kaufman, PhD

Killam Memorial Professor of Science
DW Schindler, PhD

Professors Emeriti
WA Fuller, PhD
J Lewin, PhD
IR Nursall, PhD
AL Steiner, PhD
FC Zwickel, PhD

Professors
JF Addicott, PhD
DD Beatty, PhD (Associate Dean of Science)
DA Boag, PhD
FS Chia, PhD (Dean of Graduate Studies and Research)
HF Clifford, PhD
RC Fox, PhD
WC Mackay, PhD
JL Mahrt, PhD
SK Malhotra, PhD
IO Murie, PhD
JS Nelson, PhD
EE Prepas, PhD
RF Ruth, PhD
WM Samuel, PhD
AN Spencer, PhD
NE Stacey, PhD
C Strobeck, PhD
LCH Wang, PhD
MVH Wilson, PhD
GE Zalik, PhD

Associate Professors
SA Boutin, PhD
SJ Hannon, PhD
AR Palmer, PhD
WM Tonn, PhD

Assistant Professors
M Belosevic, PhD
JP Chang, PhD (NSERC University Research Fellow)
WJ Gallin, PhD (Alberta Heritage Scholar)
JI Goldberg, PhD (NSERC Uiversity Research Fellow)

Adjunct Professors
H Cook, PhD
A Gorbman, PhD
WB McGillivary, PhD
BG Naylor, PhD
TE Reimchen, PhD
G Stirling, PhD
W Wishart, MSc

191.1.16 Additional Members of the Faculty Council

President and Vice-Chancellor
P Davenport, PhD

Professors
J Bobet, PhD (Physical Education and Recreation)
T Clandin, PhD (Home Economics)
RT Coutts, PhD, DSc (Pharmacy and Pharmaceutical Sciences)
PJ Crickmore, PhD (Engineering)
D Desmarais, PhD (Faculté Saint-Jean)
J Elbrink, PhD (Pharmacology)
J Frascara, Dip FA, Post Dip (Arts)
AS French, PhD (Physiology)
RH Gooding, PhD (Entomology)
R Hodges, PhD (Biochemistry)
AE Molzahn, MN (Nursing)
JT Mowchenko, PhD (Computer Engineering)
L Osborne, PhD (Arts)
P Rowell, PhD (Education)
E Sanders, PhD (Medicine)
F Wolfe, PhD (Agriculture and Forestry)
PW Wright, PhD (Education)

Representative
J Stoten, PGeol (Association of Professional Engineers, Geologists and Geophysicists of Alberta)

Registrar of the University
BJ Silzer, MEd

Undergraduate Students of the Faculty of Science

192 Faculty Regulations

The Faculty of Science offers degrees in Biochemistry, Botany, Cell Biology, Chemistry, Computing Science, Entomology, Genetics, Geography, Geology, Geology and Zoology (Paleontology), Geophysics, Mathematics, Meteorology, Microbiology, Pharmacology, Physics, Physiology, Psychology, Statistics and Applied Probability, and Zoology.

Pre-professional (e.g. Pre-Medicine, Pre-Dentistry, Pre-Optometry) patterns may be taken in the Faculty (see §193.27).

192.1 Degrees and Certificates

The Faculty offers three programs leading to the Bachelor of Science (BSc) degree: Honors, Specialization, and General.

The four-year Honors programs are primarily for students who seek careers in scientific research. In addition, they provide preparation for admission to graduate school which leads to a Master of Science (MSc) or a Doctor of Philosophy (PhD) degree.

The four-year Specialization programs do not concentrate on one subject to as great an extent as the Honors programs. This allows students to choose from a broader range of courses and to take a greater number of courses in a secondary area of interest. They can provide the background necessary for admission to graduate schools, in some cases, and permit the attainment of a professional status in others.

The four-year General program aims to provide a general education with a scientific emphasis for students who seek careers in business, teaching, medicine, dentistry, etc.

It should be noted that, in many cases, transfer from one degree program to another can be easily arranged to suit changing ambitions, needs, or academic qualifications of the student.

Regulations governing the Honors, Specialization, and General degree programs will be found in §193.1 followed by descriptions of each degree program arranged under the subject headings (§193.2 to §193.22).

Special Certificates are offered for students who already hold a BSc degree from this university.

192.2 Admission

Minimum Requirements

To be considered for admission to the Faculty of Science, a student must present five (5) courses at the Grade XII level with an overall average of 70% or higher. The courses must include:

(1) English 30;

(2) Mathematics 30;

(3) Subject from Group C;

(4) Subject from Group C;

(5) Subject from Group A, B, or C. (For classification of Grade XII subjects refer to §13.3.2).

Honors and/or Specialization Requirements

Consideration for admission to an Honors program requires a minimum overall average of 80% on the Grade XII courses required for admission. Note that not all Honors programs may be entered in first year. See §193.2 to §193.22.

Consideration for admission to a Specialization program requires a minimum overall average of 75% on the Grade XII courses used for admission. See §193.2 to §193.22.

Faculty of Science

Specific Admission Requirements (S) and Recommended Courses (R) for Honors and Specialization Programs (in addition to English 30 and Mathematics 30)

Programs of Study	Hon	Spec	Courses			
			Biol 30	Chem 30	Phys 30	Math 31
Applied Mathematics	*				S	S
Biochemistry	*	*	S	S	S	
Botany	*	*	S	S	R	
Cell Biotechnology (Microbiology)	*	*	S	S	R	
Chemistry	*	*		S	S	R
Computing Science	%	%			S	R
Economics & Mathematics (Mathematics)	*	*			S	S
Entomology	*	*	S	S	S	
Genetics	*	*	S	S	R	
Geography	*	*				
Geology	*	*		S	S	
Geophysics (Physics)	*	*		S	S	R
Mathematical Physics (Physics)	*				S	S
Mathematics	*	*			S	S
Meteorology (Geography)		*			S	R
Microbiology	*	*	S	S	S	
Palenotology	*		S	S	S	
Pharmacology	%	*	S	S	S	
Physical Geography	*	*				
Physics	*	*			S	R
Physiology	*		S	S	S	
Psychology	%	*	R			R
Statistics	*	*			R	
Zoology	*	*	S	S	S	

% — No direct entry to first year

BEd/BSc Combined Degree

The Faculties of Education and Science offer a 5-year combined BEd (Secondary)/BSc (General) degree program. Any student interested in this program should contact either the Faculty of Education or the Faculty of Science for further information. See also §73.7 of the Faculty of Education calendar. Admission to the program requires an average of at least 70% on five Grade 12 courses; English 30 (grade of at least 60%), Mathematics 30, two of Biology 30, Chemistry 30, Mathematics 31 or Physics 30, and a fifth 30 level course which should preferably be one of the sciences mentioned above but if not, then one of the courses listed in §13.3.2 with a grade of at least 50 in each of the courses other than English 30 (which requires 60%). Transfer to the combined degree program is possible after the first or second year of a BSc program provided that all admission requirements and all the first and second year course and academic standing requirements of the combined degree program have been met at the time of transfer.

Pre-Professional Patterns

Students intending to enter the Pre-Professional patterns should present Biology 30, Chemistry 30, Physics 30, in addition to English 30 and Mathematics 30.

Visiting Student Requirements

This category is reserved for students admitted to a degree program at another institution. For admission, students must present a letter of permission from their home institution to take courses for credit towards the degree program. The letter of permission must stipulate the specific courses that have been agreed to by the receiving institution. The letter of permission must be presented before a student will be permitted to register.

A student while registered in the Faculty of Science will not be given permission to register as a Visiting Student at another institution if the equivalent course is given on campus in the same session.

Non-Matriculated Requirements

Students who are 24 years of age by the first day of classes of the session in which admission is sought may seek admission to the BSc General Program as non-matriculated applicants. Such students must:

(1) be Canadian Citizens or Permanent Residents (Landed Immigrants);

(2) be residents of Alberta, the Yukon or Northwest Territories;

(3) present Mathematics 30 and two (2) of Biology 30, Chemistry 30, Physics 30 or Mathematics 31 such that no single grade in any of the three matriculation subjects is less than 50%. To be considered for admission to the BSc General Program, the average on the three matriculation subjects must be at least 70%.

English Language Proficiency
All applicants must meet the English Language Proficiency requirements as outlined in §13.2.2 of the Calendar.

192.3 Transfer from Other Faculties and from Other Post-Secondary Institutions

(1) Students who do not meet the specific matriculation subject requirements as outlined in §192.2 of the Calendar will not be considered for admission to the Faculty of Science. Any deficiencies in matriculation subjects must be rectified prior to admission.

(2) Students registered in another Faculty at the University of Alberta or in another postsecondary institution may apply to transfer to the Faculty of Science provided they have a satisfatory standing by the standards of their current program and provided they have a CGPA of at least 5.0 on all university or university transfer courses attempted in their current program. Advanced standing will be given for completed course work which is applicable to the degree program. Credit will not normally be given for course work of a professional nature.

(3) Applicants who lack the minimum 70% average on five (5) required high school courses will not be considered until they have completed 30 units of course weight transferable to a BSc program.

(4) Students who have previously attended this Faculty and who have been required to withdraw will not be considered for readmission until they have attended another university or postsecondary institution or another Faculty and successfully completed at least 30 units of course weight transferable to a BSc program. These credits must not include any courses equivalent to ones previously passed at this University.

192.4 Definitions

The following terms, definitions, and abbreviations are used throughout this section of the Calendar.

Approved Option
The term "approved option" has a different meaning, depending on the program in which a student is registered.

(1) For an Honors or Specialization program, an "approved option" is a course approved by the department directing the student's program.

(2) For a General program, an "approved option" is a course taken from a Faculty other than Arts or Science and for which the student has received written approval from the Dean or designee prior to registering.

Arts Option
Those courses offered by the Faculty of Arts for which the student is eligible.

Note: Students registered in the Faculty of Science may not take ECON 395, 396, POL S 316, SOC 210, 315 for degree credit.

Course Weight
A unit of course weight is an indication of the instructional credit assigned to a course and is designated by the ★ symbol after the course number and name. Units of course weight are used to form a part of the degree requirements and are also used in calculating a students Grade Point Average (GPA) and Quality Index (QI).

Full-Session
The instructional period from September to April and is often referred to as the Winter Session.

Full-Session Course
A full-session course means a single course with six units of course weight.

Half-Session
The instructional periods from September to December or January to April.

Half-Session Course
A half-session course means a single course with three units of course weight.

Junior Course
Those courses numbered 199 or lower. **Note: Any 200-level course without a 100-level (or higher) prerequisite will be counted as a junior course.**

Normal Course Load
A normal, full academic course load is 30 units of course weight during the Winter Session.

Option
The term "option" where it appears in programs means a course chosen by the student from offerings by the Faculties of Arts or Science, provided the necessary prerequisite requirements have been met.

Science Option
Those courses offered by the Faculty of Science for which the student is eligible. Note: Not all courses offered by the Faculty of Science are available to students registered in the Faculty of Science.

Senior Course
Those courses numbered 200 to 499. **Note: Any 200-level course without a 100-level (or higher) prerequisite will be counted as a junior course.**

Session
Refers to either Winter Session or Intersession.

Intersession
The instructional periods of May/June (first-term) and July/August (second-term).

Year of Program: Year of program, as referred to throughout the Science section of the calendar, is defined as follows.

Students who are applying to, or continuing in, the Faculty of Science are considered to be in their:

First year if they have successfully completed up to 29 units of course weight of their degree program;

Second year if they have successfully completed between 30 and 59 units of course weight of their degree program;

Third year if they have successfully completed between 60 and 89 units of course weight of their degree program;

Fourth year if they have successfully completed at least 90 units of course weight of their degree program.

Courses Attempted
Refers to university or university transfer courses completed with a final grade and excludes courses from which a student has withdrawn with permission.

Courses Successfully Completed
Refers to university or university transfer courses having a final grade of 4 or higher.

192.5 Cumulative Grade Point Average (CGPA)

The cumulative grade point average is the weighted average over all courses attempted while registered in this Faculty (in all sessions including Intersession) since first admission to this Faculty (or the effective date of these regulations whichever is later). The only exception is that for students who have been **Required to Withdraw** from the Faculty and who are subsequently readmitted on the basis of work done elsewhere, the CGPA will be computed only on courses taken following readmission.

The calculation of the CGPA is also subject to the following rules:

(1) An alphabetic grade of ABF will be counted as a numeric grade of 1 in the computation of the CGPA.

(2) An alphabetic grade of WF will be counted as a grade of 1 in the computation of the CGPA.

(3) Grades of Credit-No, Credit, and Pass-Fail will not be included in the computation of the CGPA.

(4) The CGPA will be rounded to the nearest decimal place using standard rounding rules — that is, it will be rounded up with a value of 5 or greater in the first non-significant place and rounded down with a value of 4 or less in the first non-significant place.

192.6 Sessional Grade Point Average (GPA)

The Grade Point Average (GPA) is defined by the following formula:

The GPA refers to the sessional average and the following are the rules for its computation:

$$\text{GPA} = \frac{\text{sum of (grade x units of course weight)}}{\text{sum of units of course weight}}$$

(1) The GPA for any session shall be based on the final grades in all courses taken during that session including half-session courses repeated in the second term and courses extra to the degree program.

(2) An alphabetical grade of ABF will be counted as a numeric grade of 1 in the computation of the common GPA;

(3) An alphabetical grade of WF will be counted as a numeric grade of 1 in the computation of the common GPA;

(4) Grades of Credit-No, Credit, and Pass-Fail will not be included in the computation of the common GPA.

(5) The Winter Session GPA or sessional GPA will be rounded to the nearest decimal place using standard rounding rules — that is, it will be rounded up with a value of 5 or greater in the first non-significant place and rounded down with a value of 4 or less in the first non-significant place.

192.7 Academic Standing

Academic Record
Students should be aware that their academic record (i.e. transcript) is a continuing one and that all matters relating to courses, grades, academic standing, and probation will permanently appear on the academic record.

Academic Standing
Each student's academic performance will be reviewed at the end of each Winter Session. Eligibility for continuation in the Faculty of Science requires a CGPA of at least 5.0 on all courses attempted while registered in this Faculty.

Students (not already on probation) whose CGPA at the end of Winter Session is below 5.0 and who are attending Intersession, first-term will have the final decision on their academic standing deferred until the end of the first-term of Intersession.

Students who, upon assessment at the end of Winter Session (or at the end of Intersession, first-term for those for whom a decision was deferred), receive the designation "Required to Withdraw" will have their registration in Intersession, second-term and in the next Winter Session cancelled.

The determination of academic standing and the resulting consequences of that ruling depend on whether or not 60 or more units of course weight of the degree program have been completed.

192.7.1 Academic Standing — First- and Second-Year Students

The following regulations apply to students who have completed fewer than 60 units of course weight of their degree program.

(1) Required to Withdraw

Students whose CGPA is less than the minimum continuation requirement of 5.0 will be **Required to Withdraw.** In this case the student's registration for Intersession, second-term and the following Winter Session will be cancelled. Such students can only apply for readmission after attending another postsecondary institution at which time they can apply for admission as a transfer student under the conditions described in §192.3 (4).

(2) May Not Continue in an Honors or Specialization Program

Continuation in an Honors program is by recommendation of the department concerned and requires a GPA of at least 6.5 in the preceding Winter Session. Some departments have higher or additional requirements. See description of Honors programs of individual departments for details.

Those Honors students who do not meet the continuation requirements of their program may apply to transfer to a BSc Specialization program or to the General program, provided they meet the admission requirements of those programs.

Continuation in a Specialization program is by recommendation of the department concerned and requires a GPA of at least 5.5 in the preceding Winter Session. Some departments have higher or additional requirements. See description of Specialization programs of individual programs for details.

Those Specialization students who do not meet the continuation requirements of their program may apply to transfer to the General program, provided they meet the minimum continuation CGPA of 5.0.

2.7.2 Academic Standing — Third-Year or Later

The following regulations apply to students who e completed 60 or more units of course weight of ir degree program:

Required to Withdraw

Students who do not meet the minimum continuation CGPA of 5.0 will be **Required to Withdraw** and will have their registration for Intersession and the following Winter Session cancelled unless they meet the conditions for Probation described below.

May Not Continue in an Honors or Specialization Program

Continuation in an Honors program is by recommendation of the department concerned and requires a GPA of at least 6.5 in the preceding Winter Session. Some departments have higher or additional requirements. See description of Honors programs of individual departments for details.

Those Honors students who do not meet the continuation requirements of their program may apply to transfer to a BSc Specialization program or to the General program, provided they meet the admission requirements of those programs.

Continuation in a Specialization program is by recommendation of the department concerned and requires a GPA of at least 5.5 in the preceding Winter Session. Some departments have higher or additional requirements. See description of Specialization programs of individual programs for details.

Those Specialization students who do not meet the continuation requirements of their program may apply to transfer to the General program, provided they meet the minimum continuation CGPA of 5.0.

Probation

a. Probation is only available to students who have completed fewer than 60 units of course weight of their program and who have a CGPA of at least 4.5.

b. Students who have completed at least 60 units of course weight of their program but who have a CGPA of less than 4.5 will be required to withdraw and will not be eligible for Probation. Such students will have their registration for Intersession, second-term and the following Winter Session cancelled. Such students can only apply for readmission after attending another postsecondary institution at which time they can apply for admission as a transfer student under the conditions of §192.3 (4).

c. Students who have completed 60 or more units of course weight of their program and whose CGPA is less than 5.0 but greater than or equal to 4.5 will be allowed to continue on Probation for one year. To clear probation, students must raise their CGPA to at least 5.0 by attending a maximum of one full Winter Session (or two separate Winter terms). Probationary students may also attend Intersession to help raise their CGPA. Intersession does not count against the maximum of two Winter Session terms.

Probationary students will be reviewed as soon as they have attended two Winter Session terms. If at that point their CGPA is 5.0 or higher they will clear probation. If their CGPA is still less than 5.0 they will be **Required to Withdraw**.

Students who have previously been on probation and who after clearing probation again fall below a CGPA of 5.0 will be **Required to Withdraw** and will not be allowed a second period of probation.

holarship

The basis for scholarship consideration is passing ades in all courses on a load of at least 30 units of urse weight during the Winter Session.

First-Class Standing

First-class standing in a given year is awarded to any student who obtains a GPA of not less than 7.5 while enrolled in a full, normal academic load (30 units of course weight) during the Winter Session.

This is also referred to as the Dean's Honor Roll.

Continuation in Programs

Students will normally be permitted to continue in their degree program if the degree requirements for the year's work are met. These requirements vary among the programs, consequently the appropriate program in §193 should be consulted for further details.

192.7.3 Graduation Year

Students who have completed 120 units of course weight or more and who have either not applied to graduate, or who have applied but have not met graduation requirements, will be permitted to register only in those courses necessary to complete their current program as expeditiously as possible. Such students must have the written approval of the Associate Dean of Science for every course beyond 120 units of course weight in which they register. Students in Honors or Specialization programs must also have the written approval of their Departmental Adviser.

192.8 Courses

Selection of Courses

Students registered in the Faculty of Science must select courses offered by the Faculty of Arts or by the Faculty of Science. In some instances, courses from other Faculties may be permitted by permission of the Dean or designee. Written approval from the Faculty of Science is required if more than 30 units of course weight are taken in a Winter Session, except in those Honors and Specialization programs requiring more than 30 units of course weight in a given year.

Selection of First-Year Courses

First-year students (i.e., those with fewer than 30 units of course weight), must restrict their registration to junior courses. Senior courses may be taken in the first year only with the consent of Department concerned and the approval of the Dean or designee.

Withdrawal from Courses

Courses from which the student withdraws up to and including the last day for registration in the first and second terms will not appear on the student's record. Courses from which the student withdraws after the last day of registration and up to and including the last day for dropping courses will appear with a grade of "W" (Withdrew with permission) on the transcript.

Students who withdraw from a course after the deadline date and who thereby receive a grade of withdraw-failing (WF) will have a grade of 1 applied in arriving at the GPA for the purpose of determining the CGPA.

The deadlines for withdrawing from courses are listed at the beginning of this section of the Calendar.

Prerequisites

Courses with prerequisite requirements may only be used for degree credit if the prerequisite requirements are met.

A grade of 4 is the minimum grade acceptable in a course which is to be used as a prerequisite.

Where a prerequisite is stated, it is understood that equivalent courses may be used to satisfy the requirement. In addition, the department offering a course with prerequisite requirements may waive the prerequisite in writing. (Prerequisite waiver forms are available from the Faculty of Science office and the Department offices).

Students who are unsure if they meet the prerequisite requirements in a course, or who wish to obtain permission to have a prerequisite waived, should consult the department offering the course.

Repeating Courses

No student will be permitted to repeat any University course, whether a failed course or a course having a grade of W, more than once except for reasons deemed sufficient by the Council of the Faculty in which the student is enrolled. For Science students, the Faculty of Science will withhold credit or indicate the course is extra to degree on any course which contravenes this regulation.

Normally a student will not be permitted to repeat a course in which a grade of 4, or more, has been received.

Only two exceptions are permitted and each requires advanced written approval of the Dean or designee:

(1) when a higher grade is necessary for a course that is required in one of the degree programs;

(2) when a student in the last year of a degree program repeats a course(s), in order to raise the GPA to the level required by the degree program.

A student who repeats a course in which a grade of 4 or more has been received, without written permission of the Faculty of Science, will have the grade attained on the initial passing of the course used for the purpose of meeting degree requirements and no credit will be assigned to the repeated course.

Credit by Special Assessment

A student who may have carried on systematic studies which may be equitable to a junior course creditable in the Faculty of Science and who has been unable to obtain the equivalent advanced standing, may obtain Credit by Special Assessment. Credit by Special Assessment may be obtained by application to the Dean or designee. The Department concerned may require the student to write a regular final examination covering the material of the course being assessed. A fee for Credit by Special Assessment will be levied. This privilege will not apply to courses in which a student has received a failing grade.

Reexamination

(1) An undergraduate student, regardless of faculty, may be permitted a reexamination in a Science course (those offered by a department in the Faculty of Science) provided that:

a. The student's GPA is 5.5 or greater in the term (for courses completed in the first term) or session (for courses completed in the second term).

b. The weight of the final examination is 45% or higher.

c. The Chair of the Department offering the course indicates, by approving the application, that the student has a high probability of success in taking a reexamination.

d. The student received a grade of 3 or lower in the course.

e. The course was completed during the Winter Session.

(2) The following additional regulations apply to students registered in the Faculty of Science:

a. Students are permitted to take reexaminations in up to six units of course weight from among all eligible courses (including those offered by faculties other than Science) provided that any applicable requirement for reexamination of the faculty offering the course are met.

b. For a student failing to meet a graduation GPA, a reexamination in a Science course in the last session, whether failed or passed, may be approved in the final year (last 30 units of course weight) of the BSc degree program or Special Certificate program in which the term or sessional GPA is less than 5.5 on the condition that the maximum number of reexaminations (six units of course weight) has not been previously taken.

(3) If a reexamination is approved, the following policy applies:

a. The reexamination mark replaces the original examination mark in determining the final grade in the course.

(4) Reexaminations are not allowed in the following instances:

a. For a course in which there is no final examination.

b. For Intersession courses.

c. When a student is absent from the final examination in a course and is not eligible for a deferred examination.

(5) Students requesting a reexamination must follow the procedures detailed in §16.5.4 of this Calendar.

192.9 Graduation

Application for Graduation

Students who intend to receive a BSc (General, Specialization, or Honors) Degree or Special Certificate must apply for the Degree or Certificate at the Faculty Office by February 1 for Spring Convocation or by September 1 for Fall Convocation.

Degree Requirements

All BSc Degrees require a minimum of 120 units of course weight. Courses with weights of ★0 are offered for credit only, and, although they may be required in

specific degree programs, cannot be used for meeting the minimum units of course weight requirement in any degree program.

Convocation

All requirements for graduation at Spring Convocation must be met by the end of a Winter Session. Those completing degree requirements during Intersession will graduate at the Fall Convocation.

First-Class Honors

First-class Honors Degrees are awarded to any student in an Honors program who obtained a GPA of not less than 7.5 over the last two Winter Sessions provided the student was enrolled in a full academic load (30 units of course weight) during each Winter Session.

With Distinction

The notation "With Distinction" is inscribed on the parchment of a candidate for a General or Specialization degree if the candidate has obtained a GPA of not less than 7.5 over the last 60 units of course weight and provided the student was enrolled in a full academic load (30 units of course weight) during each Winter Session of the last two years.

Further regulations regarding academic standing, promotion, and graduation vary from program to program within the Faculty of Science, and are therefore given in §193 below. Regulations for Honors, Specialization, and General programs will be found in §193.1. Regulations for pre-professional patterns in §193.27.

192.10 Appeals and Grievances

A copy of Faculty of Science regulations regarding appeals on grades, academic standing and early re-admission may be obtained from the Faculty Office (CW 223 Biological Sciences Building). Note: There are time deadlines for submission of appeals. Any appeal must be initialed within 21 calendar days of the original ruling or posting of grades.

193 Programs of Study

193.1 The Degree of BSc in the Honors, Specialization, and General Programs

193.1.1 Honors Programs

A minimum of 120 units of course weight normally taken in four consecutive academic years, is required for the completion of the Honors program for the degree of BSc with Honors. These programs are designed to provide specialization in the chosen subject or subjects as well as the higher standard implied by the term "Honors".

Honors programs are available in the Departments of Biochemistry, Botany, Chemistry, Computing Science, Entomology, Genetics, Geography, Geology, Mathematics, Microbiology, Pharmacology, Physics, Physiology, Psychology, Statistics and Applied Probability, and Zoology. Honors is the preferred program for students planning to pursue graduate study.

Admission

Permission to enter first-year Honors programs may be granted to students with matriculation standing of at least 80% and with the approval of the Faculty Office and the department concerned. A request for this privilege should be made on the "Application for Admission" form.

Students need not commit themselves to Honors in the first year, and may register in an appropriate selection of courses as required by the regulations of a four-year program or of a General Program. If a sufficiently high standard is obtained in the first year, students may enter Honors in the second year. Students desiring to do so must submit a re-admission form to the Faculty Office during the period between the end of the first year and the time of registration for a second year.

Consideration will also be given to applications for transfer to Honors submitted by students who have completed the second or even third year of another program.

Selection of Courses

The following regulations govern Honors programs:

(1) In each year, an Honors student's program must be approved by an Honor's adviser in the student's department and by the Faculty Office.

(2) A minimum of 72 units of course weight in Science is required in most Honors programs. Certain departments may require more than 72 units of course weight Science courses.

(3) A student normally must take at least 18 units of course weight in Arts courses as part of the requirements for the Honors degree.

(4) Normally no more than 42 units of course weight in junior courses are permitted in Honors programs. **Note:** Any 200-level course without a 100-level (or higher) prerequisite will be counted as a junior course for this purpose.

(5) Certain non-Arts and non-Science courses appropriate to the program may be permitted in Honors programs with the approval of the Faculty Office and the department in which the student is taking the program.

Course Load Requirements

Students in Honors programs must take at least 30 units of course weight during the Winter Session of each year of the program. Exceptions to this requirement must be approved by the Department and the Faculty Office.

Academic Standings and Graduation

The following regulations govern Honors programs:

(1) Admission to and continuation in an Honors program is by recommendation of the department concerned and requires a GPA of at least 6.5 in each of the preceding Winter Sessions. See description of Honors programs of individual departments for additional requirements for admission to and continuation in the Honors program.

(2) A student who fails to attain the standard necessary for continuance in Honors must withdraw from the Honors program. In so doing the student may transfer to a Specialization program with the appropriate department's approval, or to the General program in the Faculty of Science. Students applying to transfer from an Honors program to Specialization or General must meet the continuation standards for the program concerned.

(3) A student who fails to complete the requirements for a degree with Honors in the fourth year may be granted the Specialization degree or the General degree forthwith upon application provided the courses taken and the standing attained are satisfactory. Such students also may apply to transfer to a Specialization or General program as per (2) above.

(4) Degrees with Honors are awarded in two classes: First Class Honors and Honors. For First Class Honors, a GPA of at least 7.5 on the 60 units of course weight for the last two Winter Sessions is required. For Honors, a GPA of at least 6.5 on 30 units of course weight in each Winter Session is required.

(5) Students transferring to Honors from Specialization or General programs, or other Faculties or universities with credit for fewer than 30 units of course weight are allowed to make up the deficiency or deficiencies, i.e., three units of course weight to 27 units of course weight during, or after taking the full program of courses in each of the Winter Sessions after entering the Honors program.

Transfer of Credit

A student transferring to the Faculty of Science with advanced standing normally will be required to complete at least 60 units of course weight (normally the last 60) while registered in the Faculty of Science at the University of Alberta.

Time Limits for Completion of Program

Normally an Honors program must be completed in four consecutive Winter Sessions. An Honors program may be interrupted only by special permission of the Department and the Dean.

Cooperative Work Option within Honors Programs

Cooperative education is based on the principle that, for some students, periods of appropriate employment outside the University, when integrated with their academic studies, enhance the benefits that the students obtain from their academic programs. The work should be of a type that the students can reasonably hope to obtain after they graduate, or suitably related to the content of their academic programs. Cooperative work experience will be wholly additional to and not a substitute for academic courses; it is perceived as a valuable enrichment for some students but not as an alternative to normal course work. Accordingly, the existing requirement for 120 units of course weight will be maintained, with no-credit course number for the evaluation of a report or project resulting from the work experience.

Admission requirements: students must ha completed a minimum of two years in an academ program and otherwise meet the requirements for admissi to the academic Honors program.

Program selection: two forms of cooperative wo are available:

(1) Full-time employment for a period of not less th three months and not more than one year; su periods, integrated into the normal academic progra are referred to as "work-terms."

(2) Part-time employment equivalent in working hou to no less than three units of course weight; su employment is referred to as a "work assignment

Registration: work-terms and work assignmer must be approved in advance by the department concern and the Dean's Office. Retroactive approval will not l granted.

Withdrawal: students may withdraw from a coo erative program on completion of a work-term or wor assignment, or at any time during a normal academ term, and may continue in the academic Honors progra of their Department without penalty, providing that th requirements of these programs have been met.

Information: At present the only cooperative wo program approved is in the Department of Geography

193.1.2 Specialization Programs

Four-year programs, comprising a minimum of 12 units of course weight, are available providing educatio to a professional level and leading to the degree of BS with Specialization.

Specialization programs are available in the Depa ments of Biochemistry, Botany, Chemistry, Computi Science, Entomology, Genetics, Geography, Geolog Mathematics, Microbiology, Pharmacology, Physics, Ps chology, Statistics and Applied Probability, and Zoology

Admission

Permission to enter the first year of a Specializatio program normally requires a matriculation average of least 75% plus consent of Department and the Facul Office.

Selection of Courses

The following regulations govern Specialization pr grams:

(1) In each year, a Specialization student's progra must be approved by a Specialization adviser in th appropriate Department and by the Faculty Office

(2) A minimum of 72 units of course weight in Scienc is required in most Specialization programs. Certai Departments may require more than 72.

(3) A student must take at least 18 units of cours weight in Arts courses as part of the requirement for most Specialization degrees.

(4) Normally no more than 42 units of course weight i junior courses are permitted in Specialization pr grams. **Note:** Any 200-level course without a 10 level (or higher) prerequisite will be counted as junior course for this purpose.

(5) Certain non-Arts and non-Science courses appro priate to the program may be permitted in Specia zation programs with the approval of the Facult Office and the Department in which the student i taking the program.

Course Load Requirements

Students in Specialization programs should no mally take at least 30 units of course weight during th Winter Session of each year of the program. Exception must be approved by the Department and the Faculty o Science.

Academic Standings and Graduation

The following regulations govern the Specializatio programs:

(1) Admission to and continuation in a Specializatio program is by recommendation of the Departmer concerned and requires a GPA of at least 5.5 i each of the preceding Winter Sessions. See de scription of Specialization programs of individua departments for additional requirements for admis sion into and promotion in the Specialization program

(2) A student who fails to attain the standard necessar for continuation in the Specialization program will b required to withdraw from that program. In so doin the student may apply to transfer to the Genera program in the Faculty of Science. Students apply ing to transfer from a Specialization to the Genera program must meet the continuation CGPA of 5.0.

A student who fails to complete the requirements for a Specialization degree in the fourth year may be granted the General degree forthwith upon application provided the courses taken and the standing attained are satisfactory. Such students also may apply to transfer to the General program, as per (2) above.

For graduation, a program of at least 120 units of course weight must be completed with a GPA of at least 5.5 in the last 90 units of course weight credited to the degree.

BSc Specialization degrees with Distinction are awarded when students achieve a GPA of at least 7.5 on the last 60 units of course weight provided the student was enrolled in a normal course load (30 units of course weight) during each Winter Session of the last two years.

nsfer of Credit

A student transferring to the Faculty of Science with nsfer of credit normally will be required to complete at st 60 units of course weight (normally the last 60) ile registered in the Faculty of Science at the University Alberta.

ne Limits for Completion of Program

The Faculty of Science and the Department may rmit a student to complete the requirements for a ecialization degree over a longer period of time than r years.

93.1.3 General Programs

The BSc General program is designed to provide a dent with a diversified education in more than one inch of study and includes a major and minor Subject Area of Concentration, each of which must be in ience. In addition to providing for a BSc General gree, this program allows for subsequent transfer to ecialization and Honors programs for which there is first-year admission. Students enrolled in the General ogram who intend to transfer to another program ould consult the appropriate Calendar description for particular program of interest and carefully select ir first-year core courses in accordance with the uirements of the specific program.

Only those students admitted to the three-year neral degree prior to July 1986 are eligible to continue be readmitted to this degree program. All others, luding those previously in a three-year program but o subsequently transfered to an undergraduate degree another faculty or another institution are eligible only admission to a four-year degree. The deadline for mpletion of the three-year General degree is April 30, 94.

The following regulations govern the General program:

In each year, a student's program must be approved by an adviser in the student's major Subject or Area of Concentration and by the Faculty Office.

To obtain a BSc General Degree a student must receive credit in 120 units of course weight. At least 72 units of course weight and not more than 102 must be in Science. At least 18 units of course weight and not more than 48 must be in Arts.

Each student must complete a major and minor Subject or Area of Concentration, each of which must be in Science. A minimum of 36 units of course weight and a maximum of 48 units of course weight are required in the major Subject or Area of Concentration, with no more than 18 units of course weight at the junior level. At least 24 units of course weight and not more than 36 are required in the minor Subject or Area of Concentration, with no more than 12 units of course weight at the junior level.

A Subject of Concentration consists of Science courses taken from a single Department in the Faculty of Science as well as the Departments of Biochemistry, Entomology, Pharmacology or Physiology.

An Area of Concentration consists of Science courses taken from one of the four following groups:

Biological Sciences: Biochemistry, Botany, Entomology, Genetics, Microbiology, Paleontology, Pharmacology, Physiology, Zoology, and courses titled Biology (see §193.3).

Physical Sciences: Astronomy, Biochemistry, Chemistry, Geophysics, Mathematical Physics, and Physics.

Mathematical Sciences: Computing Science, Mathematics, Statistics, and Applied Probability.

Earth Sciences: Cartography, Geography, Geology, Geophysics, Meteorology, Paleontology.

Courses in a major or minor Subject of Concentration may not be included among courses which are used to meet requirements for either a major or minor Area of Concentration, e.g. courses in Mathematics cannot be used in a major or minor Subject of Concentration if the major or minor Area of Concentration includes courses in Mathematics.

(4) The General program is characterized by a First-Year Core of courses which must include the following:

a. six units of course weight from among junior courses offered by the Department of English.

b. six units of course weight from among junior courses offered by the Departments of Computing Science, Mathematics, or Statistics and Applied Probability.

c. six units of course weight from among junior courses in the Departments of Chemistry or Physics.

d. six units of course weight from among junior Science courses titled Biology, Botany, Entomology, Genetics, Geography, Geology, Psychology, or Zoology.

e. six units of course weight from among junior courses in Arts, Science, or approved options.

(5) Normally at least 30 units of course weight at the junior level must be successfully completed before a student may register in senior level courses.

(6) Not more than 42 units of course weight of all courses taken can be at the junior level. **Note:** Any 200-level course without a 100-level (or higher) prerequisite will be counted as a junior course for this purpose.

(7) Each student must successfully complete a minimum of 12 units of course weight at the 300-level (or higher) in the major Subject or Area of Concentration and, in addition, at least six units of course weight at the 300-level (or higher) in the minor Subject or Area of Concentration. **Note:** Courses at the 300-level without a 200-level (or higher) prerequisite may not be used to meet these requirements.

(8) A maximum of 12 units of course weight may be taken from Faculties other than Science or Arts. Such subjects are considered as approved options and are not included as part of the major or minor Subject or Area of Concentration, nor towards the minimum requirement of 18 units of course weight in Arts.

Course Load Requirements

Students in the General Program should normally take 30 units of course weight during the Winter Session of each year of the program.

Academic Standings and Graduation

The following regulations govern General Programs:

(1) To obtain a BSc General degree, a GPA of at least 5.5 must be attained on the last 60 units of course weight credited to the degree. Moreover, a GPA of at least 5.5 must be attained in all courses in the major Subject or Area of Concentration.

(2) BSc General degrees with Distinction are awarded when students achieve a GPA of 7.5 or higher over the last 60 units of course weight, provided the student has satisfactorily completed at least a normal academic load of 30 units of course weight during the Winter Sessions of the last two years at the University of Alberta.

Transfer of Credit

A student transferring to the Faculty of Science with transfer of credit normally will be required to complete at least 60 units of course weight (normally the last 60) while registered in the Faculty of Science at the University of Alberta.

Time Limits for Completion of Program

The Faculty of Science may permit a student to complete the requirements for a General degree over a longer period of time than four years or meet the requirements in a shorter time by attending Intersession.

193.1.4 Special Certificates

An applicant holding a BSc degree from the Faculty of Science at the University of Alberta may qualify for a certificate indicating that the requirements for the equivalent of a BSc Honors degree (§193.1.1) or a BSc Specialization Degree (§193.1.2) have been met. To qualify for a Special Certificate, at least 30 additional units of course weight must be completed and all admission, program, academic standing, and graduation requirements of the equivalent degree must be met. Admission to a Special Certificate program requires approval of both the appropriate Department and the Faculty Office. The specific course requirements are determined, at the time of admission, by the appropriate Department and the Faculty Office. The Special Certificate is not available to degree holders from other faculties at the University of Alberta or from other universities. Further information can be obtained by consulting the Faculty of Science Student Services Office.

193.1.5 The BSc After a Previous Undergraduate Degree (Other than a BSc from the Faculty of Science at the University of Alberta)

An applicant holding an undergraduate degree may qualify for the BSc General (four-year) degree, a BSc Specialization degree, or a BSc Honors degree by meeting the following requirements:

(1) satisfactorily complete a minimum of 60 units of course weight (normally the last 60) while registered in the Faculty of Science at the University of Alberta.

(2) satisfy all admission, program, academic standing, and graduation requirements of the particular degree program. See §193.1.1 for Honors, §193.1.2 for Specialization and §193.1.3 for General Program.

Admission to a Specialization program and an Honors program requires approval of both the appropriate Department and the Faculty Office. The specific course requirements for a degree program are determined, at the time of admission, by the appropriate Department (for Specialization and Honors) and the Faculty Office. The BSc after a previous undergraduate degree is available to holders of undergraduate degrees from other faculties at the University of Alberta and from other universities. Further information can be obtained by consulting the Faculty of Science Student Services Office.

Only those students admitted to the after-degree program for the three-year General degree prior to July 1986 are eligible to continue or be readmitted to this after degree program. All others, including those previously in a three-year program but who subsequently complete an undergraduate degree in another faculty or another institution are eligible only for admission to a four-year degree. The deadline for completion of the three-year General degree is April 30, 1994.

193.1.6 Transfers Between Programs

A student may transfer from an Honors Program to either the corresponding Specialization Program or to the General Program, or from a Specialization Program to the General Program at any time in the program, by submitting a re-admission form to the Faculty Office. Transfers from the General Program to a Specialization Program or an Honors Program or from one Specialization Program to another or to an Honors Program may be made according to the dates listed under the heading "Faculty of Science Important Dates." In addition, transfers to Honors and Specialization Programs require approval of the Department responsible for the new program.

193.1.7 Completion of a BSc degree after Transfer to another Faculty

Students who transfer to another Faculty after completing part of a BSc program may reapply to the Faculty of Science after completing the degree from the other faculty. A former student transferring to the Faculty of Science normally will be required to complete at least 60 units of course weight while registered in the Faculty of Science at the University of Alberta. Courses completed in the Faculty of Science prior to transfer may count toward the minimum 60 units of course weight required to be completed while registered in the Faculty of Science. Science or Arts courses taken while in another Faculty, which are clearly noted as "extra-to-degree" on the transcript, may be used to fulfill specific subject requirements of a degree program in science but will not be used to fulfill the minimum residence requirement of the program.

193.2 Biochemistry

193.2.1 Honors in Biochemistry

Admission to and continuation in the Honors Program in Biochemistry requires a GPA of at least 7.0 in each of the preceding Winter Sessions.

Graduation requires a minimum GPA of 7.0 on the last 60 units of course weight credited to the degree.

First Year: CHEM 104, 160; MATH 113 (or 114), and 115; GENET 197; MICRB 193; six units of course weight in a junior Arts option (English recommended).

Second Year: BIOCH 301; CHEM 270; six units of course weight in a junior Physics; six units of course weight in an approved Science option; six units of course weight in an Arts option.

Third Year: BIOCH 401: six units of course weight in Biochemistry; CHEM 212; six units of course weight in an approved Science option: six units of course weight in an Arts option.

Fourth Year: Six units of course weight in Biochemistry; CHEM 361, 363; CMPUT 251 or equivalent; 15 units of course weight in approved Science options.

Note A: Recommended Science options for second year include MICRB 265; MATH 214 and 215; GENET 270 and 275 or other approved science courses.

Note B: Recommended Science options for third year include two intermediate three units of course weight courses in physics: MICRB 311 and 332 or 415 or other approved science courses.

Note C: Students are urged to consult with the Department of Biochemistry regarding the selection of options throughout the course of the program.

Note D: Students must receive a grade of not less than 6 in BIOCH 301 and 5 in all other Biochemistry courses.

Note E: Six units of course weight in a junior English is required as one of the 18 units of course weight in Arts options within the Honors in Biochemistry program and may be taken in first, second, or third year.

193.2.2 Specialization in Biochemistry

Admission to and continuation in the Specialization Program in Biochemistry requires a minimum GPA of 6.0.

Graduation requires a minimum GPA of 6.0 on the last 60 units of course weight credited to the degree.

First Year: CHEM 104, 160; MATH 113 (or 114), 115; GENET 197; MICRB 193; six units of course weight junior Arts option (English recommended).

Second Year: BIOCH 301, CHEM 270; six units of course weight in Physics; MICRB 265; three units of course weight in an approved Science option; six units of course weight in an Arts option.

Third Year: BIOCH 401; MICRB 311 and 332 or 415 ; CHEM 212; CMPUT 251 or equivalent; three units of course weight in an approved option; six units of course weight in an Arts option.

Fourth Year: Six units of course weight in a senior Biochemistry; 18 units of course weight in approved Science options; six units of course weight in an option.

Note A: Students are urged to consult with the Department of Biochemistry regarding the selection of options throughout the course of the program.

Note B: Students must receive a grade of not less than 6 in BIOCH 301 and 5 in all other Biochemistry course credited toward the minimal number required for the degree.

Note C: Six units of course weight in a junior English is required as one of the 18 units of course weight in Arts options within the Specialization in Biochemistry program and may be taken to the first, second, or third year.

193.3 Biology

Students in the General program who chose the major or minor in the Biological Sciences should take GENET 197, BOT 199, MICRB 193, and ZOOL 120. Other 100-level courses in the Biological Sciences, eg., BIOL 110, BOT 130, ENT 209, GENET 165 **and** PMCOL 111, cannot be taken for credit in the General program when the major or minor is in Biological Sciences. Students who choose Biology as a subject of concentration are advised to consult with one of the Departments of Botany, Entomology, Genetics, Microbiology, Zoology, or the Faculty of Science Office.

193.4 Botany

193.4.1 Honors in Botany

The Honors program provides students with a comprehensive education and is the most desirable route for students intent upon pursuing higher degrees and a research or academic career in either pure or applied aspects of Botany.

Admission to and continuation in the Honors Botany program requires a GPA of 6.5 in the preceding Winter Session. Graduation requires a minimum GPA of 6.0 on the last 30 units of course weight.

First Year: ENGL 101 or 104 and 105, BOT 199, ZOOL 120, GENET 197, MATH 113 (or 114), 115, CHEM 104, three units of course weight in a junior Science option.

Second Year: BOT 201, 210; BIOL 201, 202; CHEM 260; three units of course weight in a senior Botany, STAT 141 or 237; six units of course weight in an Arts option (ENGL 298, HIST 204, PHIL 120, RUSS 160, GERM 165, FREN 100, 150 or 155 and 156 recommended).

Third Year: BOT 220, 311; BOT 230, 231; BOT 240, 250; BOT 219; three units of course weight in Genetics. Six units of course weight in an Arts option; three units of course weight in a Science option.

Fourth Year: BOT 490; three units of course weight in Genetics; 15 units of course weight in Botany; six units of course weight in an option. (It should be noted that not every 300- and 400-level Botany course is offered every year).

193.4.2 Specialization in Botany

The specialization program in Botany provides the basic training and comprehensive education required for employment at the BSc level in industrial, government and university laboratories. Students who pursue this degree program are eligible for graduate programs as long as the appropriate academic standing is achieved. The program differs from the honors program in that students have freedom to pursue specialized areas of interest in Botany — as approved by the Department.

Admission to and continuation in the Specialization in Botany program requires a GPA of 5.5 in the preceding Winter Session. Graduation requires a minimum GPA of 5.5 on all courses credited to the degree.

First Year: ENGL 101 or 104 or 105; CHEM 104; MATH 113 (or 114), 115; BOT 199; ZOOL 120; GENET 197; three units of course weight in a junior Science option.

Second Year: BOT 201, 210; CHEM 260; six units of course weight in an Arts option (PHIL 120, ENGL 298 or HIST 204, recommended). BIOL 201, 202; three units of course weight in a senior Botany; STAT 141 or 237.

Third and Fourth Year: Students are required to take three units of course weight in each of Plant Taxonomy (BOT 220) and Plant Structure (BOT 219) plus six units of course weight in each of Plant Ecology (BOT 230 and 231) and Plant Physiology (BOT 240 and 250) and Genetics. Students must also take the equivalent of 18 units of course weight in senior Botany courses plus Botany 490. Students are also requied to take six units of course weight in Arts options, plus six units of course weight in Science options.

193.4.3 Concentration in Botany

Students intending to pursue Botany as a subject of concentration in the General Program should take BOT 199; GENET 197; BOT 201, 210; plus three units of course weight in each of the following areas: Plant Structure (BOT 219); Plant Ecology (BOT 230 or 231); Plant Taxonomy (BOT 220); Plant Physiology (BOT 240 or 250); plus an additional 15 units of course weight in senior Botany. Note that GENET 197 does not count toward the Botany content for a major in Botany but could contribute to a minor area of concentration in Biology.

193.5 Cell Biotechnology

The Departments of Microbiology and Genetics offer jointly a program leading to the BSc degree with Honors or Specialization in Cell Biotechnology. The program is designed to provide the educational prerequisites and laboratory experience to students who are preparing for either postgraduate or a technological career in the cellular aspects of this field. Graduates of these programs would generally be considered to have fulfilled the requirements to a graduate program in either Microbiology or Genetics.

A student enrolling in the Honors or Specialization program must confer with the Cell Biotechnology Program student adviser before registration each year. Information regarding the program may be obtained by contacting either of the participating departments. The two programs are described in §193.16 of this Calendar.

193.6 Chemistry

193.6.1 Honors in Chemistry

Honors students in chemistry are required to take a core of chemistry and auxiliary courses. The core consists of 42 units of course weight in chemistry courses, 12 units of course weight in mathematics courses, ni[ne] units of course weight in Physics, and 18 units of cour[se] weight in Arts courses. In addition to the core cours[es] honors students are required to complete at least [six] single-term senior courses in chemistry. Four of the[se] must be selected from Group A and the other two fro[m] either Group A or Group B. Finally, the honors stude[nt] must include seven single-term options in the third an[d] fourth years of the program. These are normally chose[n] from offerings within the Faculty of Science. All option[s] must be selected in consultation with the Department [of] Chemistry. The Arts options must include six units [of] course weight in scientific German or Russian.

Admission to and continuation in the Honors Chemist[ry] program requires a GPA of 6.5 in the preceding Winte[r] Session. Graduation requires a minimum GPA of 6.0 o[n] the last 30 units of course weight.

First Year: CHEM 104; CHEM 160; PHYS 141/14[5] MATH 113 (or 114), MATH 115; a junior course i[n] English or three units of course weight in English an[d] three units of course weight in an Arts option.

Second Year: CHEM 212; CHEM 241; CHEM 27[0] PHYS 238; MATH 214; MATH 215; six units of cours[e] weight in an Arts option.

Third and Fourth Years: CHEM 341; CHEM 361 CHEM 363; CHEM 381; CHEM 383, 18 units of cours[e] weight in senior chemistry courses, 21 units of cours[e] weight in science options, six units of course weight i[n] Arts options.

Group A: CHEM 313, 437; CHEM 461, 465; CHEM 477, 481; BIOCH 303.

Group B: CHEM 401, 403, 407; CHEM 413, 415 417, 419, 421; CHEM 433, 439; CHEM 463, 469, 467 CHEM 479, 483, 491, 493; BIOCH 305.

The Department of Chemistry may approve varia[tions] in the above program upon application.

193.6.2 Specialization in Chemistry

The complete specialization program consists o[f] 120 units of course weight and must include CHEM 104 (or 204), 160 (or 260), 212, 241, 270, 341, 361, 363, 381, 383; PHYS 141, 143, 238; MATH 113 (or 114), 115, 214, 215; a six units of course weight junior course in English or three units of course weight in English and three units of course weight in an Arts option, 12 units of course weight in Arts options, and 39 units of course weight in approved options. These options are normally chosen from offerings within the Faculty of Science. All options must be selected in consultation with the Department of Chemistry. The honors curriculum can be used as a guide in planning a specialization program.

Admission to and continuation in the Specialization in Chemistry program requires a GPA of 5.5 on all Chemistry courses and a GPA of 5.5 on all courses beyond the first 30 units of course weight. Graduation requires a minimum GPA of 5.5 on the last 90 units of course weight credited to the degree.

193.6.3 Concentration in Chemistry

Students in the BSc General program with a major in Chemistry should complete CHEM 100 (or 104 or 204); CHEM 160 (or 260); MATH 113 (or 114); MATH 115 and six units of course weight of junior physics during the first two years of their programs. It is recommended that CHEM 104, MATH 113 (or 114) and MATH 115 be taken in the first year since these provide maximum flexibility for course selection in the second and subsequent years of the program. To complete a major in Chemistry, students should select from the following senior courses; CHEM 212, CHEM 270, CHEM 330, CHEM 361, CHEM 363, CHEM 375 and CHEM 313. Students majoring in Chemistry should consult with the Chemistry Department Adviser before registering in second and later years of the program in order to plan a course of study and have their programs approved by the Adviser.

Students in the BSc General program with a minor in Chemistry should include CHEM 100 (or 104 or 204) and CHEM 160 (or 260) in their program. Other Chemistry courses to complete the minor may be selected from: CHEM 212; CHEM 270; CHEM 330; CHEM 361; CHEM 363; CHEM 375 and CHEM 313.

193.6.4 Certificate of Specialization After a BSc Degree from the Faculty of Science at the University of Alberta

All outstanding requirements of the Specialization Degree must be completed with an average of 5.5 or better in all chemistry courses taken after the general degree, see §193.1.4.

3.6.5 Diploma After a Previous Degree

Students who, after a period of professional ement, wish to update their qualifications may enroll special one-year program designed for this purpose. se who possess at least the three-year general ree or its equivalent, and who complete satisfactorily pproved selection of 30 units of course weight, may ıwarded a diploma which attests to this improvement heir qualification. All courses must be selected in sultation with the Department.

3.7 Computing Science

The Computing Science program has a quota in the ond year. Consideration for admission to the second r requires completion of the following required courses: PUT 114, 115, 172 (CMPUT 172 may be replaced by option); MATH 114, 115, 120; PHYS 141, 143; GL 101.

Consideration for admission to the Specialization in mputing Science program requires a GPA of 6.0 in preceding Winter Session and an overall GPA of 6.0 the required courses.

Consideration for admission to the Honors in Com- ing Science program requires a GPA of at least 6.5 in preceding Winter Session and a GPA of at least 6.5 the required courses.

Note A: Students with an aptitude for Mathematics e encouraged to take MATH 117, 118, 127, instead of ATH 114, 115, 120.

Note B: All courses required for admission must be mpleted by the application deadline. See §14.2 of the lendar.

93.7.1 Honors in Computing Science

Admission to the continuation in the Honors program quires a GPA of at least 6.5 in the preceding Winter ssion. Graduation requires a GPA of at least 6.5 on e last 30 units of course weight credited to the degree.

Students must obtain departmental guidance in veloping their program. All course selections and anges require approval by a departmental adviser.

Second Year: CMPUT 204, 225, 280, 285, 291; ATH 214 (or 217), 215 (or 317); six units of course ight in Arts option; three units of course weight in approved option.

Third Year: CMPUT 301, 304, 350; MATH 128 or 23; STAT 221; STAT 222 or CMPUT 321 or 322; six nits of course weight in an Arts option; six units of ourse weight in an approved Science option.

Fourth Year: CMPUT 319, 374, 379, 391, and at ast three units of course weight in CMPUT at the 300- 400-level; 15 units of course weight in approved ptions.

Note A: Honors students are encouraged to take ıe Honors version of the Mathematics courses beginning the first year.

Note B: Honors students are required to participate CMPUT 495 (Honors Seminar) during their degree rogram.

93.7.2 Specialization in Computing Science

Admission to and continuation in the Specialization rogram requires a GPA of at least 6.0 in the preceding Vinter Session. Graduation requires a GPA of at least .0 on the last 90 units of course weight credited to the legree.

The program gives students much freedom in pursuing pecialized areas of interest in Computing Science and n other disciplines. It is recommended that beginning vith the second year, options be used to build a strong oundation in one area of application. Recommended ireas of applications include business, electrical engineering and applied mathematics. The area of application is to be developed by the student with the assistance from he departmental adviser. Course selections in other departments and faculties may be subject to quotas and GPA requirements.

Second Year: CMPUT 204, 225, 280, 285, 291; MATH 214; six units of course weight in an Arts option; six units of course weight in an approved option.

Third Year: CMPUT 301, 319 or 340, 379; STAT 221; STAT 222 or CMPUT 321 or 322; six units of course weight in an Arts option; six units of course weight in an approved Science option; three units of course weight in an approved option.

Fourth Year: Nine units of course weight in an approved Computing Science course; 21 units of course weight in approved options.

Note: At least nine units of course weight in approved options must be at the 300-level or higher.

193.7.3 Cooperative BSc Program in Computer Engineering

A four-year program in Computer Engineering is offered jointly by the Faculty of Science and the Faculty of Engineering. For details see §83.5 of the Faculty of Engineering Calendar.

For administrative purposes, students in the program will be registered in the Faculty of Engineering.

(1) **Admission:** The matriculation requirements are set out in §82.1.

(2) **Promotion:** Promotion from year to year will be decided by the Joint Committee, but in general the requirements for promotion will be the same as those of the Faculty of Engineering.

(3) **Graduation:** The Joint Committee will recommend approval of the candidate for the degree to the Council of the Faculty of Science and to the Council of the Faculty of Engineering.

193.8 Entomology

193.8.1 Honors in Entomology

Admission to and continuation in the Honors Entomology program requires a minimum GPA of 6.5 in each of the preceding Winter Sessions. Graduation requires a GPA of 6.5 on 30 units of course weight in each Winter Session.

First Year: MICRB 193; BOT 199; ENT 120; ZOOL 120; CHEM 100; six units of course weight in Mathematics and/or Physics; six units of course weight in English or French or a foreign language (ENGL 101 recommended).

Second Year: CHEM 260; ZOOL 225, 226, 252, 253; two of ENT 207, 280, 292; GENET 197; GENET 275.

Third Year: BIOCH 301 or PL SC 331 and 432; three units of course weight in Computing Science (CMPUT 251 recommended); six units of course weight in an approved senior Botany; two of ENT 308, 317, 319, 321, 427; STAT 237; three units of course weight in an approved senior Science option (including Entomology): three units of course weight in an Arts option.

Fourth Year: Two of ENT 308, 317, 319, 321, 427; nine units of course weight in approved senior Science options (including Entomology); nine units of course weight in approved Arts options; six units of course weight in an option.

Students planning to take Honors in Entomology should consult the Department. Each Honors student will be assigned a faculty adviser.

In addition to the calendar requirements, other courses may be required by the adviser. Each honors student will also be required to pass a comprehensive oral or written examination by selected Faculty members within the final term.

193.8.2 Specialization in Entomology

Admission to and continuation in the Specialization in Entomology program requires a minimum GPA of 6.0 in each of the preceding Winter Sessions. Graduation requires an overall GPA of 6.0 on the last 90 units of course weight credited to the degree.

First Year: MICRB 193, BOT 199; ENT 120; ZOOL 120; CHEM 100; six units of course weight in Mathematics and/or Physics; six units of course weight in English, French or a foreign language (ENGL 101 recommended).

Second Year: CHEM 260; ZOOL 225, 226, 252, 253; two of ENT 207, 280, 292; GENET197; GENET 275.

Third Year: BIOCH 301 or PL SC 331 **and** 432; three units of course weight in Computing Science (CMPUT 251 recommended); six units of course weight in an approved senior Botany; two of ENT 308, 317, 319, 321, 427; STAT 237; three units of course weight in an approved senior science option (including Entomology); three units of course weight in an Arts option.

Fourth Year: Two of ENT 308, 317, 319, 321, 427; nine units of course weight in approved senior Science options (including Entomology); nine units of course weight in approved Arts options; six units of course weight in an option.

193.9 Genetics

193.9.1 Honors in Genetics

Admission to and continuation in the Honors Genetics program requires a GPA of 6.5 in the preceding Winter Session and a minimum GPA of 6.0 (6.5 in 1992-93) in all required Genetics courses (including GENET 197).

Graduation requires an overall GPA of 6.5 on all courses to be credited to the degree and a minimum GPA of 6.0 (6.5 in 1992-93) in all required Genetics courses (including GENET 197).

First Year: GENET 197; CHEM 100 (or 104), 160; MATH 113 (or 114), 115; MICRB 193; six units of course weight in an approved Arts option.

Second Year: BIOCH 301; BIOL 201; BOT 199 and ZOOL 120; GENET 270, 275; STAT 236 or 237; six units of course weight in an Arts option.

Third Year: GENET 280, 300, 304, 315; 12 units of course weight in approved Science options; six units of course weight in an Arts option.

Fourth Year: Three of GENET 308, 312, 318, 364, 390, 407 (see Note B); GENET 420 or 421; six units of course weight in an approved Science option; six units of course weight in an option.

Note A: Students reaching second year without completing CHEM 160 must take CHEM 260 in second year and BIOCH 301 in third year as an approved Science option.

Note B: In their final year, students are required to present a brief Honors thesis based principally on work carried out in GENET 407.

Note C: Students in the Genetics Honors Program may take two of GENET 407 or one each of GENET 406 or 407; they are obliged to take GENET 407 at least once.

193.9.2 Specialization in Genetics

Admission to and continuation in the Specialization in Genetics program requires a GPA of 6.0 in the preceding Winter Session and a minimum GPA of 6.0 in all required Genetics courses (including GENET 197).

Graduation requires an overall GPA of 6.0 on all courses to be credited to the degree and a minimum GPA of 6.0 in all required Genetics courses (including GENET 197).

First Year: GENET 197; CHEM 100 (or 104), 160; MATH 113 (or 114), 115; MICRB 193; six units of course weight in an approved Arts option.

Second Year: BIOCH 301; BIOL 201; BOT 199 and ZOOL 120; GENET 270, 275; STAT 236 or 237; six units of course weight in an Arts option.

Third and Fourth Years: GENET 280; four (4) of GENET 300, 304, 308, 312, 315 and 318; 27 units of course weight in approved Science options; six units of course weight in an Arts option; 12 units of course weight in options.

Note: Students reaching second year without completing CHEM 160 must take CHEM 260 in second year and BIOCH 301 in third year as an approved Science option.

193.9.3 Honors in Cell Biotechnology

The Departments of Genetics and Microbiology offer jointly a program leading to the BSc degree in Honors Cell Biotechnology. See §§193.5 and 193.16.4 for details.

193.9.4 Specialization in Cell Biotechnology

The Departments of Genetics and Microbiology offer jointly a program leading to the BSc degree with Specialization in Cell Biotechnology. See §§193.5 and 193.16.5 for details.

193.10 Geography

193.10.1 Honors in Geography

The Department of Geography offers both the BA and the BSc degrees with Honors in Geography. Students wishing to stress the humanities and social sciences should register in the BA program; those who wish to stress the physical and biological sciences should register in the BSc program.

Admission to and continuation in the BSc Honors in Geography program requires a GPA of 6.5 in the preceding Winter Session and a GPA of 6.5 on all Geography courses taken. Graduation requires a GPA of 6.5 in all courses credited to the degree.

First Year: GEOG 130, 131; ENGL 101; 12 units of course weight in approved Science options; six units of course weight in an approved option.

Second Year: GEOG 220; GEOG 221 plus nine units of course weight in Science options and 12 units of course weight in Arts options or GEOG 222 plus 12 units of course weight in approved Science options and nine units of course weight in approved Arts options; three units of course weight in an approved option.

Third Year: 21 units of course weight in approved Science options; nine units of course weight in approved options.

Fourth Year: GEOG 453; 12 units of course weight in approved Science options; 12 units of course weight in approved options.

Note: The following are required in the program: 36 units of course weight in Science Geography or Cartography, at least 12 of which must be at the 300-level; six units of course weight in Cartography; six units of course weight in Arts Geography and at least 12 units of course weight in approved non-Geography science options.

193.10.2 Honors in Geography (Physical Geography)

First Year: GEOG 130, 131; ENGL 101; six units of course weight from among junior courses in Computing, Mathematics, or Statistics; six units of course weight at the junior-level in Chemistry or Physics; six units of course weight in an approved option.

Second Year: GEOG 221, 223, 330, 331; six units of course weight in Cartograpy; six units of course weight in an approved Science option; six units of course weight in an approved Arts option.

Third Year: Six units of course weight in Arts Geography; nine units of course weight in a 300- or 400-level Science Geography; three units of course weight in SOILS; three units of course weight in an approved Science option; nine units of course weight in approved options.

Fourth Year: Six units of course weight in a senior science Geography, Cartography, or Meteorology; six units of course weight in a 300- or 400-level Science Geography; GEOG 453; 12 units of course weight in approved options.

193.10.3 Specialization in Geography

Admission to and continuation in the Specialization in Geography program requires a GPA of 5.0 in each of the preceding Winter Sessions. Graduation requires a GPA of 5.5 in the last 90 units of course weight credited to the degree.

First Year: GEOG 130, 131; ENGL 101; 12 units of course weight in approved Science options; six units of course weight in an approved option.

Second Year: GEOG 220; GEOG 221 plus nine units of course weight in Science options and 12 units of course weight in Arts options or GEOG 222 plus 12 units of course weight in approved Science options and nine units of course weight in approved Arts option; three units of course weight in an approved option.

Third Year: 21 units of course weight in approved Science options; nine units of course weight in approved options.

Fourth Year: 18 units of course weight in approved Science options; 12 units of course weight in approved options.

Note: The following are required in the program: 36 units of course weight in Science Geography or Cartography, at least 12 of which must be at the 300-level; six units of course weight in Cartograpy; six units of course weight in Arts Geography; and at least 12 units of course weight in approved non-Geography science options.

193.10.4 Specialization in Geography (Physical Geography)

First Year: GEOG 130, 131; ENGL 101; six units of course weight from among junior courses in Computing Science, Mathematics, or Statistics; six units of course weight at the junior-level in Chemistry or Physics; six units of course weight in an approved option.

Second Year: GEOG 221, 223, 330, 331; six units of course weight in Cartography; six units of course weight in the area of application; six units of course weight in an approved Arts option.

Third Year: Six units of course weight in Arts Geography; six units of course weight in a 300-level Science Geography; three units of course weight in SOILS; nine units of course weight in the area of application; six units of course weight in an approved option.

Fourth Year: Six units of course weight in a 400-level Science Geography; nine units of course weight in the area of application, (three of which must be at the 400-level); 15 units of course weight in an approved option.

Note: An area of application must be one of the following: Biological Sciences (including Biochemistry, Botany, Entomology, Genetics, Microbiology, Pharmacology, Physiology, Zoology and courses titled Biology), Physical Sciences (including Astronomy, Biochemistry, Chemistry, Geophysics, Mathematical Physics and Physics), Mathematical Sciences (including Computing Science, Mathematics and Statistics) or Earth Sciences (including Geology and Geophysics and Paleontology).

193.10.5 Specialization in Geography (Meteorology)

The Department of Geography offers a four-year program which meets the education prerequisites for students who are preparing for a career as a meteorologist. Students who wish to qualify for Graduate Studies in Meteorology are encouraged to take the recommended courses.

First Year: ENGL 101; MATH 113 (or 114), 115; MATH 120, 121; PHYS 141, 143; STAT 141; three units of course weight in an Arts option.

Second Year: CMPUT 251, 252, GEOG 333; MATH 214, 215; METEO 230; 332; PHYS 285; three units of course weight in approved PHYS option (PHYS 211 recommended); three units of course weight in an Arts option.

Third Year: MATH 201; METEO 330, 331, 430; PHYS 244; 12 units of course weight in approved Science options (MATH 311, METEO 220, GEOG 433, MEC E 431 are recommended); three units of course weight in an Arts option.

Fourth Year: METEO 432, 433 plus 12 units of course weight in approved Meteorology/Climatology Science options (GEOG 533, METEO 425, 434, 530 are recommended); six units of course weight in approved Physical Science options (PHYS 382 is recommended); three units of course weight in an option; three units of course weight in an Arts option.

193.10.6 Diploma in Meteorology

Students who have received a BSc degree and who wish to obtain special qualifications in Meteorology which are recognized by the Atmospheric Environment Service of Canada, will be awarded a diploma to recognize these additional qualifications, upon satisfactory completion of an approved selection of at least 30 units of course weight. The specific course requirements for this diploma are determined for each student by the Department.

193.11 Geology

Geologists are employed by companies engaged in exploration for and production of minerals and fuels; by government agencies such as the Alberta Research Council, Alberta Department of Energy and Natural Resources, Alberta Department of the Environment, Alberta Energy Resources Conservation Board and the Geological Survey of Canada; by companies engaged in the construction of major engineering projects; and by universities. They work in cities and in remote uninhabited regions, in the laboratory and in the office, and in the deserts and jungles of developing countries. Canada, a country dependent on its vast natural resources, requires the geologist's skills for the maintenance of the economy. A world facing crises in the supply of energy-giving fuels and metals will depend increasingly on the geologist for guidance in finding new supplies. Mankind facing progressive deterioration of the environment requires the geologist's knowledge of the earth to maintain the quality of life.

193.11.1 Professional Associations

The practice of geology in Alberta is regulated by the Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA).

The right to practice geology in Alberta and acce professional responsibility for such work as well as t right to use the geologist title is limited to those who a registered with APEGGA.

Members of the Geology Student Society are aut matically student members of APEGGA. Graduates a encouraged to join APEGGA as geologists-in-trainin Two years of acceptable experience following graduatic is necessary for registration as a Professional Geologis the APEGGA membership category which confers th right to accept responsibility for geology work.

193.11.2 Honors in Geology

Admission to and continuation in the Honors Geo ogy program requires a GPA of 6.0 in the precedin Winter Session.

Graduation requires a minimum GPA of 6.5 on th last 60 units of course weight.

First Year: GEOL 102, 103; CHEM 104; MATH 11 115; PHYS 105, 106; ENGL 101.

Second Year: GEOL 219, 210, 220, 230, 231, 26 282; CMPUT 251; three units of course weight in a approved Science option; six units of course weight an approved Arts option.

Third Year: GEOL 319, 323, 345, 346, 347, 35 360; six units of course weight in an approved Scienc option; six units of course weight in an Arts option.

Fourth Year: GEOL 407 or 408; GEOL 470; 1 units of course weight in approved Geology option GEOPH 227, 229; six units of course weight in a approved Science option.

Note: The following Geology courses are offered alternate years and may have to be taken in the thi year if they are to be included in the student's program GEOL 314, 463, 492, and PALEO 414.

193.11.3 Honors in Geology and Zoology: Paleontology

Paleontology is a basic science; it is concerned wit the evolutionary history of life and, hence, draws upo both biological and geological knowledge. Paleontologist usually work as research scientists and/or teachers universities, museums, and government and industri laboratories, in Canada and elsewhere. Paleontologist usually hold advanced research degrees.

The Honors Program in Geology and Zoology

Paleontology is intended to provide an introductio at the undergraduate level to the fossil history of inve tebrate and vertebrate animals, thereby enabling th student to secure a core of broad paleontological knowledg that will permit later entry into more specialized postgraduat studies in invertebrate and vertebrate paleontology. Th program is also constructed to provide the student wit background in those ancillary geological and biologica sciences that are most relevant to studies in paleontology.

Students should be prepared to follow the guideline below, and are required to obtain a GPA of 6.5 calculate over the last two years. For First Class Honors, a average of at least 7.5 is required. In addition, student are required to pass an oral examination, in their fourt year, on stratigraphic and biologic principles. The exam ining committee shall consist of three members of th academic staff of Geology and/or Zoology.

First Year: GENET 197; BOT 199; CHEM 100 o 104; ENGL 101; GEOL 102 and 103; ZOOL 120; thre units of course weight in an approved Science option.

Second Year: ANTHR 390; GEOL 210, 219, 220 262; ZOOL 200, 252, 253; MATH 113 (or 114);

Third Year: GEOL 230 or 314; 282, 323; ZOO 321, 335, or BOT 411; ZOOL 361; six units of cours weight in an approved Arts option; six units of cours weight in an approved option.

Fourth Year: GEOL 230 or 314; PALEO 318, 319 STAT 237; ZOOL 335 or BOT 411; ZOOL 499 or GEO 407 and 408; nine units of course weight in approve courses.

193.11.4 Specialization in Geology

Admission to and continuation in the Specializatio in Geology program requires a GPA of 5.5 in th preceding Winter Session.

Graduation requires a GPA of 5.5 on the last 9 units of course weight credited to the degree.

First Year: GEOL 102, 103; CHEM 104; MATH 113 115; PHYS 105, 106; ENGL 101.

Second Year: GEOL 210, 219, 220, 230, 231, 262 282; CMPUT 251; three units of course weight in a approved Science option (BOT 199 or ZOOL 120, MATH 120 or STAT 141 recommended); six units of cours weight in an Arts option.

Third Year: GEOL 319, 323, 345, 346, 347, 352, ; three units of course weight in a Science option; six s of course weight in an Arts option.

Fourth Year: GEOL 470; 12 units of course weight ipproved Geology options; GEOPH 227, 229; nine s of course weight in approved Science options.

Note: The following Geology courses are offered in rnate years and may have to be taken in the third r if they are to be included in the student's program: OL 314, 463, 492 and PALEO 414.

3.11.5 Concentration in Geology

Students in the General Program are recommended onsider whether they may wish to transfer to Spe- ization or Honors in Geology at a later date: if so, y should take (1) below. Other students will find that ions (2) and (3) make attractive packages for Major Minor subjects respectively, giving an excellent intro- tion to the nature of the solid Earth and its resources. dents taking option (1) should be able to transfer to professional geology programs at the end of any of first three years if all other requirements of those grams are met.

GEOL 102, 103; 210, 219, 220, 230, 231, 262 and 282; 319, 323, 345, 346, 347, and 360 (and 352 if 48 units of course weight are required).

GEOL 102, 103; 205, 206, 207, 208 and 295; either 210, 220, 230, 262, 323, 340 or 230, 231, 262, 345, 346, 347 with a further nine units of course weight in geology courses to make 48 units of course weight.

GEOL 102, 103; 205, 206, 207, 208 and 295; and one or more of 210, 220, 230, 282, and 340.

93.12 Geophysics

The Department of Physics offers two programs aling with solid earth physics and space physics. The nors in Geophysics program is designed to prepare idents for careers in graduate work in geophysics and described in §193.18.2. The Specialization in Geophysics ogram is designed to prepare students with the conceptual d laboratory background required for employment at BSc level in industry, government and technical hools, and is described in §193.18.5.

93.12.1 Professional Associations

The practice of geophysics in Alberta is regulated the Association of Professional Engineers, Geolo- sts and Geophysicists of Alberta (APEGGA).

The right to practice geophysics in Alberta and cept professional responsibility for such work as well the right to use the geophysicist title is limited to ose who are registered with APEGGA.

Members of the Geophysics Student Society are tomatically student members of APEGGA. Graduates e encouraged to join APEGGA as Geophysicists-in- aining. Two years of acceptable experience following aduation is necessary for registration as a Profes- onal Geophysicist, the APEGGA membership category nich confers the right to accept responsibility for geo- hysical work.

93.13 Linguistics

In January 1987 the Department of Linguistics moved the Faculty of Arts. Students who began a BSc rogram in Linguistics prior to 1987 should consult the epartment of Linguistics concerning completion of the rogram.

See the Faculty of Arts §44.27 of the Calendar garding Linguistics courses offered in the Faculty of rts.

93.14 Mathematics

93.14.1 Honors in Mathematics

Admission to and continuation in the Honors in Mathematics program requires a minimum GPA of 6.0 in he preceding Winter Session. Graduation requires a minimum GPA of 6.0 on the last 30 units of course weight credited to the degree and an overall GPA of 7.0 in all Mathematics courses taken in the program.

First Year: MATH 117, 118, 127, 128; six units of course weight in an approved Science option; six units of course weight in an approved Arts option; six units of course weight in an approved option.

Second Year: MATH 217, 227, 317, 336; six units of course weight in an approved Science option; six units of course weight in an approved Arts option; six units of course weight in an approved option.

Third Year and Fourth Years: 30 units of course weight in Mathematics courses, six units of course weight in an approved Science option, six units of course weight in an approved Arts option, 18 units of course weight in approved options.

The program must include MATH 411, 417, 418, 426, 427, 447, 486, 496, one of MATH 347, 373, 421, and either MATH 446 or 448.

The Honors Seminar, Math 496 should normally be taken in the fourth year. Note that several of the required courses are only given in alternate years.

Honors in Applied Mathematics

This program is the same as the above except for the courses required in the Third and Fourth Years: MATH 411, 417, 436, 438, 486, 496, one of MATH 373 or 421, 12 units of course weight in approved options at the 300-level in the field of application, three units of course weight in an approved 300- or 400-level Mathematics and/or Mathematical Physics option, 12 units of course weight in approved Science options, six units of course weight in an approved Arts option, six units of course weight in an approved option.

Minor in Statistics

The degrees Honors in Mathematics and Honors in Applied Mathematics can each be obtained with a minor in Statistics provided the student's program included STAT 265, 266, 465, 466, 471, and two of STAT 377, 472, 475, 479 or a 400-level Statistics course.

Minor in Computing Science

The degrees Honors in Mathematics and Honors in Applied Mathematics can each be obtained with a Minor in Computing Science. The student's program must include CMPUT 114, 115, 172, 204, 280, 285, 374 and at least 12 units of course weight in Computing Science at the 300- or 400-level chosen with approval of both the Computing Science Department Honors Adviser and the Mathematics Department Honors Adviser. The student must have a GPA of at least 6.0 in all these courses. Students in the Minor in Computing Science should consider taking CMPUT 225 or 291 in second year in order to keep options open for selection of 300-level Computing courses.

The Department also offers a BA Honors in Mathematics (See §43.15.1).

Honors in Mathematical Physics

See §193.18.3 for details.

193.14.2 Specialization in Mathematics

Admission to and continuation in the Specialization in Mathematics program requires a GPA of at least 5.5 in the preceding Winter Session and a minimum GPA of at least 5.5 on all Mathematics courses taken. Graduation requires a GPA of at least 5.5 on all Mathematics courses credited towards the degree and a GPA of at least 5.5 is required on all courses credited towards the degree.

First Year: MATH 114, 115; MATH 120, 121; CMPUT 114, 115; six units of course weight in an approved Science option; three units of course weight in a junior English; three units of course weight in an Arts option.

Second Year: MATH 214, 215; MATH 223; three units of course weight in Mathematics; six units of course weight in an approved Science option; six units of course weight in an Arts option; six units of course weight in an approved option.

Third Year: MATH 314; three units of course weight in a 300-level Mathematics; six units of course weight in Mathematics; six units of course weight in an approved Science option; six units of course weight in an Arts option; six units of course weight in an approved option.

Fourth Year: 12 units of course weight in a 300-level Mathematics; 18 units of course weight in approved Science options.

Note A: A student must take six units of course weight in a Mathematics course in each year of the program.

Note B: MATH 113 is equivalent to 114. The corresponding Honors course can be substituted for a course listed. For example, MATH 117 can be substituted for 114.

193.14.3 Mathematics and Economics

The Faculty of Science offers both an Honors degree and a Specialization degree in Mathematics and Economics.

Honors in Mathematics and Economics

First Year: ECON 101, 102, MATH 117, 118, MATH 127, 128, six units of course weight in a junior English course, six units of course weight in a Science option.

Second Year: ECON 381, 382, MATH 217, 317, STAT 265, 266, six units of course weight in a Science option, six units of course weight in an option.

Third and Fourth Years: 24 units of course weight in Economics, 24 units of course weight in Mathematics or Statistics courses, six units of course weight in a Science option, six units of course weight in an option. The program must contain MATH 227, ECON 481, 482, 407, 408, and four (4) of MATH 336, 373, 411, 417, 421, 426, 486. MGTSC 352, 404, 424, 426, 427 are approved options, but are not substitutes for Economics courses: Credit will not be given for ECON 386, 387, or 399.

Specialization in Mathematics and Economics

First Year: ECON 101, 102, MATH 113, 115, MATH 120, 121, six units of course weight in a junior English course, six units of course weight in a Science option.

Second Year: ECON 381, 382, MATH 214, 215, STAT 265, 266, six units of course weight in a Science option, six units of course weight in an option.

Third and Fourth Years: 24 units of course weight in Economics, 18 units of course weight in Mathematics, and 18 units of course weight in options.

The program must contain at least 36 units of course weight in Economics, at least 36 units of course weight in Mathematics, and six units of course weight in Computing Science. 12 units of course weight in Economics must be at the 400-level or above. 12 units of course weight in Mathematics must be at the 300-level or above. MGTSC 352, 404, 424, 426, 427 are approved options but are not substitutes for Economics courses. Credit will not normally be given for ECON 386, 387, or 399. Students who are considering graduate work in Economics are advised to take ECON 407 and ECON 408.

Each program must have approval of the Departments of Mathematics and Economics and must contain a minimum of 63 units of course weight in Science.

193.15 Meteorology

193.15.1 Specialization in Meteorology

See §193.10.5.

193.16 Microbiology

193.16.1 Honors in Microbiology

Admission to and continuation in the Honors Microbiology program requires a minimum GPA of 6.5 in the preceding Winter Session. A student must receive a grade of not less than 6 in MICRB 193, 265, 311 and BIOCH 301. Graduation requires a minimum GPA of 6.5 on the last 60 units of course weight credited to the degree.

First Year: GENET 197; CHEM 160; CHEM 100 (or 104); MATH 113 (or 114), 115; MICRB 193; six units of course weight in an approved Arts option.

Second Year: BIOCH 301; BIOL 201; MICRB 224, 265; PHYS 105; three units of course weight in an approved Genetics course; six units of course weight in an approved Arts option; three units of course weight in an approved option.

Third Year: One of CHEM 212 or 270 or 361, 363; MICRB 311, 313, 370, 390, (or 415), and 444; six units of course weight in an approved Arts option; three units of course weight in an approved option,

Fourth Year: One of CHEM 212 or 270 or 361, 363 (not previously taken); MICRB 499; 12 units of course weight in approved options.

193.16.2 Specialization in Microbiology

Admission to and continuation in the Specialization in Microbiology program requires a minimum GPA of 6.0 in the preceding Winter Session. A student must receive a grade of not less than 6 in MICRB 193, 265, 311 and BIOCH 301. Graduation requires a minimum GPA of 6.0 on the last 60 units of course weight credited to the degree.

First Year: GENET 197; CHEM 100 (or 104); CHEM 160; MICRB 193; six units of course weight in an approved Science option; six units of course weight in an approved Arts option.

Second Year: BIOCH 301; BIOL 201; MICRB 265; MATH 113 (or 114), 115; PHYS 105; six units of course weight in approved Arts options; three units of course weight in an approved option.

Third Year: MICRB 311, 313; three units of course weight in a Genetics course; six units of course weight in approved Arts options; six units of course weight in an approved Science options; nine units of course weight in approved options.

Fourth Year: CHEM 212; six units of course weight in approved Science options; 18 units of course weight in approved options.

193.16.3 Honors in Cell Biotechnology

This program is offered jointly with the Department of Genetics. See also §193.5 for general information.

Admission to and continuation in the Honors Cell Biotechnology program requires a GPA of 6.5 in the preceding Winter Session. A minimum grade of 6 is required in each of the following courses: BIOCH 301, GENET 197 and 270, and MICRB 193, or their equivalents.

Graduation requires an overall GPA of 6.5 in the final year of the program.

First Year: GENET 197; CHEM 104, 160; MATH 113, 115; MICRB 193; six units of course weight in approved Arts options.

Second Year: BIOCH 301; BIOL 201; GENET 270; six units of course weight in approved Arts options; 12 units of course weight in approved options.

Third Year: GENET 300, 304, 390; MICRB 311, 313, 370, 444; six units of course weight in approved Arts options.

Fourth Year: CHEM 361, 363; GENET 420; MICRB 406, 415, 450; GENET 401 or MICRB 498.

193.16.4 Specialization in Cell Biotechnology

This program is offered jointly with the Department of Genetics. See also §193.5 for general information.

The Specialization program is designed to provide more flexibility than is available in the Honors program.

Admission to and continuation in the Specialization in Cell Biotechnology program requires a GPA of 6.0 in the preceding Winter Session. A minimum grade of 6 is required in each of the following courses: BIOCH 301, GENET 197 and 270, and MICRB 193, or their equivalents.

Graduation requires an overall GPA of 6.0 in the final year of the program.

First Year: GENET 197; CHEM 104, 160; MATH 113, 115; MICRB 193; six units of course weight in approved Arts options.

Second Year: BIOCH 301; BIOL 201; GENET 270; six units of course weight in approved Arts options; 12 units of course weight in approved options.

Third Year: GENET 300, 304, 390; MICRB 311, 313; three units of course weight in an approved Arts option; 12 units of course weight in approved options.

Fourth Year: One of GENET 420 or MICRB 444; MICRB 415, 450; three units of course weight in an approved Arts option; 12 units of course weight in approved options.

193.17 Pharmacology

193.17.1 Honors in Pharmacology

Because no senior courses in Pharmacology are offered until students are in their third year of study, all students are required to register for "Specialization in Pharmacology" (§193.17.2) for the first three years of the program.

At the end of their third year, students with a GPA of at least 6.5 in each of the first three Winter Sessions of the program may request a transfer to the Honors program, provided that the courses they have taken and the standing attained are satisfactory. However, a grade of at least 7 is required in PHYSL 310 and all courses taken in the Department of Pharmacology before the student will be given approval to transfer to the Honors program.

A student considering the Honors program must consult the Chair of the Department of Pharmacology (or designee) concerning eligibility and the selection of course options throughout the program. Students in the Honors program must take at least 30 units of course weight during the Winter Session of each year of the program. Each Honors student's program must be approved by the Department of Pharmacology.

First Year: As for the program "Specialization in Pharmacology."

Second Year: As for the program "Specialization in Pharmacology."

Third Year: As for the program "Specialization in Pharmacology."

Fourth Year: Two of PMCOL 403, 404, 405, 435, 436 (whichever were not taken in the third year); PMCOL 498; PMCOL 499; plus other approved options preferably in Physiology, Biochemistry, or Pharmacy to a total of 30 units of course weight for the Winter Session.

Note: Degrees with Honors are awarded in two classes: First Class Honors and Honors.

BSc First Class Honors in Pharmacology is awarded to students who achieve a GPA of at least 7.5 in their third and fourth year, and, in addition, a GPA of at least 8.0 for all courses taken in the Department of Pharmacology.

BSc Honors in Pharmacology is awarded to students who achieve a GPA of at least 6.5 in their fourth year; and, in addition, a GPA of at least 6.5 (7.0 in 1992-93) for all courses taken in the Department of Pharmacology.

A student who fails to attain the GPA's necessary for an Honors degree in Pharmacology may be granted the Specialization degree, provided that the standing attained is approved by the Department.

193.17.2 Specialization in Pharmacology

Because no senior courses in Pharmacology are offered until the third year of study, all students are required to register initially for "Specialization in Pharmacology".

Admission into or promotion to the third year of the Specialization program requires a GPA of at least 6.0 in each of the preceding Winter Sessions. In addition, a grade of at least 6 is required in PMCOL 432 before a student will be given departmental approval to register in the fourth year of the Specialization program.

Specialization students must consult the Chair of the Department of Pharmacology (or designee) regarding the selection of options throughout the program. In each year, a Specialization student's program must be approved by the Department of Pharmacology.

First Year: CHEM 104; CHEM 160; MATH 113 (or 114); ZOOL 120; GENET 197; three units of course weight in an approved Science option; ENGL 101.

Second Year: BIOCH 301; MICRB 193; 15 units of course weight in Science options (MICRB 265 recommended); six units of course weight in approved Arts option.

Third Year: PMCOL 432; two of PMCOL 403, 404, 405, 435, 436; PHYSL 310; three units of course weight in Statistics plus other approved Science options; six units of course weight in an approved Arts option.

Fourth Year: Two of PMCOL 403, 404, 405, 435, 436 (whichever were not taken in the third year); plus other approved Science options.

Graduation requires a GPA of at least 6.0 on the last 60 units of course weight credited toward the degree and a GPA of at least 6.0 in all Pharmacology courses which are credited toward the degree.

193.18 Physics

The Honors Programs offered by the Department of Physics are designed to provide a comprehensive education for students intending to pursue advanced degrees and a research or academic career.

Admission to and continuation in the Honors Physics programs requires a GPA of 6.5 in the preceding Winter Session. Graduation requires a GPA of 6.5 on the last 96 units of course weight credited to the degree.

The Specialization Programs are designed to provide greater flexibility for students who want a four-year degree in Physics or Geophysics without the full comprehensive training of the Honors Programs. Admission into a Specialization Program normally requires a GPA of at least 5.5 and this average must be maintained every year thereafter.

Note: Students interested in the Engineering-Physics program should consult §83.6.4 of the Faculty of Engineering section of this Calendar.

193.18.1 Honors in Physics

First Year: PHYS 141, 143; MATH 114 (or 117), 115 (or 118); MATH 120 (or 127); six units of course weight in an English course (ENGL 101 recommended); CMPUT 251; six units of course weight in an approved Science option (recommended are CHEM 104; GEOL 102, 103; ASTRO 110).

Second Year: PHYS 211, 244, 271, 285, 29
MATH 121; MATH 214 (or 217), 215 (or 317); nine un
of course weight in Arts options.

Third Year: PHYS 362, 372, 382, 395, 397; MA P
343, 344; MATH 311, 334, 437.

Fourth Year: PHYS 411, 413, 415, 472, 473, 49
either PHYS 491 or MA PH 451; three units of cour
weight in an Arts option; six units of course weight in
400-level approved Science option. Students are al
expected to take part in the weekly Physics Colloquiu

193.18.2 Honors in Geophysics

First Year: PHYS 141, 143; MATH 114, 115, 12
six units of course weight in an English course (ENG
101 recommended); CMPUT 251; One of GEOL 10
103 or CHEM 104.

Second Year: PHYS 211, 244, 271, 285, 29
MATH 121, 214, 215; GEOPH 221; one of CHEM 104
GEOL 102, 103.

Third Year: GEOPH 326; PHYS 382, 395; MAT
311, 334, 437; MA PH 343; GEOL 221; three units
course weight in an Arts option.

Fourth Year: GEOPH 421, 424, 426, 428; PHY
372; GEOL 360; MA PH 467; three units of cours
weight in an approved Physics or Geophysics optio
three units of course weight in an approved Scienc
option; three units of course weight in an Arts option.

193.18.3 Honors in Mathematical Physics

First Year: MATH 117, 118, 127; PHYS 141, 14
CHEM 104 or GEOL 102, 103; six units of course weig
in an English course (ENGL 101 recommended); MAT
128 or CMPUT 251.

Second Year: MATH 217, 227, 317; PHYS 21
244, 271, 285, 290; STAT 235 or 265; three units
course weight in an Arts option; CMPUT 251 or MAT
128.

Third Year: MATH 311 or 411, 334, 437; MA PH
343, 344; PHYS 372, 362, 382; three units of cours
weight in an Arts option.

Fourth Year: MATH 417; MA PH 451, 453, 467
PHYS 411, 472; 12 units of course weight in approve
Science options.

193.18.4 Specialization in Physics

The courses listed below comprise a minimum pro
gram. Students may, in consultation with the Department
select more advanced courses in place of those listed. A
suitably enriched program can be used for admission t
graduate work in Physics provided satisfactory standing
is obtained.

First Year: PHYS 141, 143; MATH 113 (or 114) and
115; MATH 120; CMPUT 251; six units of course weight
in an English course (ENGL 101 recommended); six
units of course weight in an approved option (CHEM
104, GEOL 102, 103 or ASTRO 110 recommended).

Second Year: PHYS 244, 251, 285; MATH 214,
215, and 201; six units of course weight in an approved
option; six units of course weight in an Arts option.

Third Year: PHYS 211, 271, 290; MATH 300, 311,
six units of course weight in an Arts option; nine units of
course weight in an approved options.

Fourth Year: PHYS 362, 372, 382, 395, 397; 12
units of course weight in an approved options.

193.18.5 Specialization in Geophysics

First Year: PHYS 141, 143; MATH 113 (or 114),
115, 120; six units of course weight in an English (ENGL
101 recommended); CMPUT 251; one of CHEM 104 or
GEOL 102, 103.

Second Year: PHYS 244, 271, 285; MATH 201,
214, 215; GEOPH 221; one of CHEM 104 or GEOL 102,
103; three units of course weight in an Arts option.

Third Year: PHYS 211, 290; MATH 300, 311; GEOPH
325, 326; GEOL 221, 262; PET E 564; three units of
course weight in an Arts option.

Fourth Year: PHYS 382, 395; GEOPH 424, 426,
428; GEOL 360; six units of course weight in an approved
Science option.

193.18.6 Concentration in Physics

Students considering Physics as their major subject
of concentration in the four-year General BSc program
are strongly advised to include PHYS 105, 106, 204 and

as early as possible in their program. To complete a r in Physics, PHYS 294 is strongly recommended. ents majoring in Physics should normally select the following senior courses: PHYS 301, 302, 307, and 319. They should also consult with a Physics artment Adviser before registering in second or later s of the program in order to have their programs oved.

3.19 Physiology

3.19.1 Honors in Physiology

The program leading to the degree of BSc with ors in Physiology is offered by the Department of siology in the Faculty of Medicine.
The Honors program is designed primarily to prepare ents for advanced study leading to academic and arch careers. A choice of courses is available for ents with interest in particular branches of Biology. current trend is towards quantitative aspects of siology and students are advised to acquire the best ground in Mathematics, and in the chemical and ical sciences, consistent with their interests and ies.
Admission to the Honors program requires an 80% iculation average minimum or a GPA of 7.0 in ious courses. Continuation in the program requires PA of 7.0 in the year completed and a grade of at t 7 in PHYSL 310 (or equivalent course). Graduation First-Class Honors requires a GPA of 7.5 on the ses taken in the last two years of the program. lents considering Honors in Physiology must consult Program Adviser in the Department prior to entry each year of the program.
The course requirements in the program are:
First Year: GENET 197; ZOOL 120; CHEM 104; EM 160; MATH 113 (or 114), and 115; or Math 117 118; ENGL 101.
Second Year: PHYSL 310; ZOOL 225, 226; PHYS 106 or 141, 143; MATH 214, 215 or 217, 317 or T 236 or 237 and either ZOOL 430 or CMPUT 251; six units of course weight in an Arts option.
Third Year: PHYSL 401; PHYSL 404; PHYSL 410; CH 301; CHEM 270; NEURO 471/472; GENET 270 ree units of course weight in an approved option.
Fourth Year: PHYSL 502 and at least five of the wing courses: PHYSL 501, PHYSL 503 or PMCOL ; PHYSL 506; INT D 543 or 544; INT D 545; BIOL ; BIOCH 512 or 521; six units of course weight in an option, six units of course weight in an approved on.
Honors students are also encouraged to attend all artment seminars.

3.20 Psychology

3.20.1 Honors in Psychology

Admission to the Honors Psychology program requires inimum GPA of 7.0 in the preceding Winter Session a minimum GPA of 7.0 over all psychology courses. re is no admission after the beginning of the third r. Continuation and graduation from the Honors chology program requires a minimum GPA of 7.0 in preceding Winter Session.
Note: Admission to the Honors Pschology program take place at the end of the first or second year . Students must complete PSYCO 104 and 105 prior dmission.
First Year: Direct admission into first year is not mitted; however, students in the General program it take PSYCO 104, 105, and those General program o-course requirements as set out in §193.1.3 (4) of Calendar including at least six units of course weight rts. ZOOL 120 and/or GENET 197 and either CMPUT or MATH 113 or 114 or 120 are strongly recom- nded.
Second Year: PSYCO 211; six units of course ght in an Arts option; 12 units of course weight in roved Science options; nine units of course weight in roved options.
Third Year: PSYCO 306, 307; six units of course ght in an Arts option; 12 units of course weight in roved Science options; six units of course weight in approved options.
Fourth Year: PSYCO 406, 407, 490; nine units of rse weight in approved Science options; nine units of rse weight in approved options.
Note A: The Honors in Psychology program requires inimum of 48 units of course weight and a maximum of 60 units of course weight in Psychology and must include at least nine units of course weight in Arts Psychology. Students are encouraged to complete a laboratory course in Psychology, eg., PSYCO 208, 266 or 475. A minimum of 30 units of course weight must be taken in related subjects. Courses in related subjects must be approved by the Honors Adviser.
Note B: Students will undertake a non-credit research apprenticeship during the third year. During the fourth year, students will conduct and write an empirical honors thesis (PSYCO 490) under the guidance of a faculty member of the department. Students must present their thesis proposals to other students and staff in the department at the annual Psychology Honors Conference in the spring of their third year and thesis results at the annual Psychology Honors Conference in the spring of their fourth year.

193.20.2 Specialization in Psychology

Admission to and continuation in the Specialization in Psychology program requires a minimum GPA of 5.5 in the preceding Winter Session. Graduation requires a minimum GPA of 5.5 on all courses credited to the degree.
First Year: PSYCO 104, 105; six units of course weight in an English course (ENGL 101 is recommended); 18 units of course weight in approved Science options.
Second Year: PSYCO 211; three units of course weight in an approved Arts option; 15 units of course weight in approved Science options; nine units of course weight in approved options.
Third Year: Six units of course weight in an approved Arts option; 12 units of course weight in approved Science options; 12 units of course weight in approved options.
Fourth Year: 21 units of course weight in approved Science options; nine units of course weight in approved options.
In order to fulfill the degree requirements the student is required to complete a minimum of 30 units of course weight in Science Psychology courses of which at least 12 units of course weight must be at the 300-level or above.

193.21 Statistics and Applied Probability

193.21.1 Honors in Statistics

Admission to and continuation in the Honors in Statistics and Applied Probability program requires a GPA of 6.0 in the preceding Winter Session.
Graduation requires a GPA of 7.0 on all Statistics and Mathematics courses taken and a GPA of 6.0 on the last 30 units of course weight credited to the degree.
First Year: MATH 117, 118; MATH 127; six units of course weight in an Arts option, nine units of course weight in approved Science options; six units of course weight in an approved option.
Second Year: MATH 217, MATH 227, 280; STAT 251, 265; six units of course weight in an Arts option, six units of course weight in an approved Science option; three units of course weight in an approved option.
Third and Fourth Years: MATH 314 or 417; MATH 317; MATH 373 or 380; MATH 414 or 418; STAT 361, 365, 366, 368, 377, 471, 475; and six units of course weight in a 400-level approved MATH or STAT course(s). Six units of course weight in an Arts option; 15 units of course weight in approved options. Note: At least nine units of course weight in approved options in one distinct field of application must be taken at the 300-level or higher. Examples of fields of applications are Biology, Business, Computing Science, Economics, Engineering, Pharmacology, Political Science, Psychology, and Sociology. The student should plan carefully so that the proper prerequisites are taken early in the program.

193.21.2 Specialization in Statistics

This program is intended for students who are interested in applying statistics to a second discipline. It can lead to a variety of careers. Examples of fields of applications are Agriculture, Business, Chemical Engineering, Computing Science, Economics, Education, Genetics, Health Services Administration, Pharmacology, Political Science, Psychology, Sociology, and Zoology.
The program consists of 120 units of course weight satisfying the requirements of the Faculty of Science. In addition, it must include the equivalent of 18 approved units of course weight in Mathematics, 24 approved units of course weight in Statistics, six approved units of course weight in Computing Science, and 18 units of course weight in a single field of application.
Admission to and continuation in the Specialization in Statistics program requires a GPA of 6.0 in STAT 251, 265 and a GPA of 5.5 in the preceding Winter Session. (As of 1992-93 an average grade of 6.5 in STAT 251 and 265 will be required.) Graduation requires a minimum GPA of 5.5 on the last 90 units of course weight credited to the degree.
An example of an acceptable four-year sequence is given below:
First Year: MATH 113, 115; MATH 120, 121; CMPUT 114, 115; six units of course weight in an Arts option, six units of course weight in an option.
Second Year: MATH 214, 215; STAT 251, 265; 18 units of course weight in options.
Third Year: STAT 365, 366; six units of course weight in a 300-level Statistics courses; 18 units of course weight in options.
Fourth Year: STAT 466, 471; 24 units of course weight in options..
Each program must be approved by the Department of Statistics and Applied Probability. The student is advised to consult the Department regarding specific program recommendations for the field of application chosen. For Faculty requirements see §193.1.2.

193.22 Zoology

193.22.1 Honors in Zoology

The Honors Program in Zoology is intended primarily for students planning to continue into postgraduate study and a research or academic career. It also provides a comprehensive background in Zoology for those planning a teaching career in science with emphasis on biology, or for students interested generally in science.
The study of animals is wide-ranging and complex. At the molecular level, biological processes depend on the same phenomena that underlie chemistry, physics and the other natural sciences. Quantitative techniques in biology are rapidly being improved in the understanding of subcellular processes, the aggregation and differentiation of cells, the mechanics of complex organisms, the analysis of populations and ecosystems, and the ramifications of taxonomic relationships. Consequently, it is necessary that zoologists have a background in chemistry, physics and mathematics.
Normally, the Honors Program will be completed in four years. Special arrangements for extension of time must be made through the student's adviser and the Honors Students Adviser of the Department of Zoology.
Admission to and continuation in the Honors Zoology Program requires a GPA of 6.5 in the preceding Winter Session. Graduation requires a minimum GPA of 6.5 on all courses credited to the degree.
The outline of the program is as follows (variations in sequence are permissible as long as the student has the required prerequisites):
First Year: GENET 197; BOT 199; ZOOL 120; CHEM 100, 104 or 160; six units of course weight in Mathematics or Physics; six units of course weight in English, French, or a foreign language (ENGL 101 recommended); three units of course weight in an approved Science option.
Second Year: BIOL 202; ZOOL 200, 231, 252, 253; six units of course weight in Mathematics, Physics, or Chemistry; six units of course weight in an Arts option.
Third Year: ZOOL 242; 12 units of course weight in Zoology options; three units of course weight in Statistics (STAT 237 recommended); six units of course weight in an Arts option; three units of course weight in an approved Science option.
Fourth Year: ZOOL 321; ZOOL 499 or ZOOL 495, and three units of course weight in a 400-level option in the Biological Sciences; six units of course weight in a Science option; 15 units of course weight in approved options.
An effort is made to employ Honors students in biological research during the summer.

Honors Route in Cell Biology and Physiology

First Year: GENET 197; BOT 199; ZOOL 120; CHEM 160 (or 100); six units of course weight in Mathematics or Physics; six units of course weight in English, French, or a foreign language (ENGL 101 recommended); three units of course weight in an approved Science option.
Second Year: BIOL 202; ZOOL 242; ZOOL 200 and 250 or ZOOL 225 and 252, 253; CHEM 204 (or 260); six units of course weight in an Arts option.
Third Year: ZOOL 231; three of BIOL 445, ZOOL 311, 340, 341, 342, 343, 344, 411; BIOCH 301; six units of course weight in Mathematics or Physics (whichever not taken in first year); six units of course weight in an Arts option.

Fourth Year: Six units of course weight in Zoology or Biology (ZOOL 321 highly recommended); ZOOL 499, or ZOOL 495 and three units of course weight in a 400-level option in Biological Sciences; 18 units of course weight in approved options.

193.22.2 Honors in Zoology and Geology

See "Honors in Geology and Zoology," §193.11.2, above.

193.22.3 Specialization in Zoology

The Specialization Program in Zoology is intended for students who wish to pursue Zoology further than is possible in the General Degree Program. Students in this program are urged to develop a strong background in Chemistry, Physics, and Mathematics. It is possible to proceed to postgraduate study from the Specialization Program, but the Honors Program provides a stronger foundation for that.

Normally, the Specialization Program will be completed in four years. Special arrangements for extension of time must be made through the student's adviser and the Specialization Students Adviser of the Department of Zoology.

Admission to and continuation in the Specialization in Zoology program requires a GPA of 6.0 in each of the preceding Winter Sessions. Graduation requires a minimum GPA of 6.0 on all courses credited to the degree.

First Year: GENET 197; BOT 199; ZOOL 120; CHEM 160 (or 100); nine units of course weight in an approved Science option; six units of course weight in English, French, or a foreign language (ENGL 101 is recommended).

Second Year: Fifteen units of course weight in Zoology (to include ZOOL 231, ZOOL 200 or 225, ZOOL 250 or 252/253); nine units of course weight in approved options; six units of course weight in an Arts option.

Third Year: ZOOL 242; six units of course weight in Zoology; three units of course weight in Statistics (STAT 237 is recommended); nine units of course weight in an approved Science option; six units of course weight in an Arts option.

Fourth Year: ZOOL 321; six units of course weight in Zoology; 21 units of course weight in an approved options.

Each student in the Zoology Specialization Program has an assigned adviser, who is to be consulted whenever program decisions are taken. Students may arrange with their adviser and the Specialization Students Adviser to substitute some courses in closely related fields (e.g., Biology, Marine Science, Paleontology, Physiology) for Zoology courses. Specialization students registering for courses in Marine Science at Bamfield Marine Station must have prior written approval from the Specialization Students Program Advisor. If a student intends to take a full course load in Marine Science during the Winter Session, a written application should be made to the program adviser outlining how the courses taken will advance the student's education more than a term on campus in Edmonton. Normally, students will spend their first year of registration in the Specialization program in Edmonton.

Note: §193.23 reserved.

193.24 Marine Science

A marine station is established at Bamfield on Vancouver Island where there are excellent opportunities for the study of marine biology and related subjects. An academic program is in operation at the station, in which summer study will provide credit towards degrees in Science.

Information concerning course prerequisites and application procedures for Marine Science may be obtained from the Departments of Botany and Zoology, or the Office of the Dean of Science. Permission to register in these courses may be obtained from the Director of the Bamfield Marine Station, to whom application should be made.

Note: For details of courses see §194.18.

193.25 Northern Studies

Students interested in Canada's North and especially students planning a career in northern Canada are encouraged to include within their curriculum some of the following courses: ANTHR 346, 350, 355, 445, and 446; GENET 197; BOT 199, 201, 202, 221, 422; GEOG 130, 131, 333, 334, 424, 445, 446, 465, 468, 469; GEOL 201, 204, 492; INT D 416; METEO 230; POL S 100, 320 or 321, 432; ZOOL 120, 366. These courses may be taken within the framework of existing General, Specialization or Honors programs in the Faculty of Science. Students interested in Northern Studies should mention this fact to their faculty adviser.

Note: More information about courses given may be obtained from the Boreal Institute Office.

193.26 Paleontology

The program in Paleontology is designed for Honors students in Geology, Zoology, and Anthropology, having interests in vertebrate and invertebrate paleobiology, including evolution and systematics, historical biogeography, functional morphology and stratigraphic distribution. The program may be entered through the framework of existing programs in the Departments of Geology, Zoology, and Anthropology. Interested students should consult with their Honors adviser in preparing their programs.

193.27 Pre-Professional Programs

Students admitted to a Faculty of Science degree program who plan to transfer later to a professional program in another faculty must satisfy Faculty of Science requirements while they are registered in this Faculty. Students planning to apply to a professional program should consult the relevant calendar sections to ensure that they are satisfying pre-professional requirements as well as program requirements in the Faculty of Science.

193.28 Pre-Professional Requirements for Medicine and Dentistry

The admission requirements for the DDS Degree program and the MD Degree program are given in §62.1 and §122.1, respectively. Students planning to apply for admission to one of these Degree programs, may take the required courses while registered in a degree program in the Faculty of Science.

193.29 Pre-Professional Requirements for Veterinary Medicine

See §33.6. Students may take the required courses while registered in a BSc General program or one of the BSc Specialization or BSc Honors programs. Students should consult the Faculty Office regarding appropriate courses.

193.30 Pre-Professional Requirements for Rehabilitation Medicine

See §192.1. Students may take the required courses while registered in a BSc General program or one of the BSc Specialization or BSc Honors programs.

193.31 Pre-Optometry

Arrangements have been made whereby a maximum of seven students from Alberta wishing to enter the School of Optometry at the University of Waterloo may take one or two pre-professional years at the University of Alberta. Applicants must be Canadian Citizens or be residents of Canada who have held permanent resident (landed immigrant) status for at least twelve months prior to the registration day of the Fall Term.

The minimum requirement for admission consideration to the professional optometry program at the University of Waterloo is at least one year of university-level study in science.

Students planning to take a one-year, pre-optometry program should register in the following courses: MICRB 193; ZOOL 120; CHEM 104 or CHEM 160; MATH 11[illegible] (or 114) and 115; PHYS 105, 106 or 141, 143; PSYCO 104; three units of course weight in an Arts option.

Students planning to take a two-year, pre-optometry program should register in the following courses:

First Year: MICRB 193; ZOOL 120; CHEM 104 and 160; MATH 113 (or 114), 115; PHYS 105, 106 or 141, 143

Second Year: BIOCH 301; ZOOL 225; MICRB 193; PSYCO 104; one of STAT 141, 236, 237; three units of course weight in a senior Science option; nine units of course weight in Arts options.

Note: Courses in human anatomy, histology and embryology and physical optics, that are comparable to those at the University of Waterloo, are not available in this pre-optometry program.

For further information consult the Faculty of Science Office and/or the University of Waterloo Calendar.

194 Details of Courses

194.1 General Information

Courses open to students in the Faculty of Science are listed here in alphabetical order, whether they are offered by the Faculty of Science or by another Faculty. See also §192.8 regarding courses.

Each course is designated by its computer abbreviation and a number. Students should use this abbreviation and number when completing any form which requires this information.

Courses numbered 100 to 199 are junior courses, normally taken by first-year undergraduates. Those numbered 200 to 499 are senior courses, normally taken after the first year. Courses numbered 500 and up are restricted to graduate students and are found in §204 of this Calendar (Faculty of Graduate Studies and Research).

Following the title of the course is the symbol "s" standing for "units of course weight," and a number indicating the weight of the course as used in computing grade-point averages and for meeting degree requirements. A normal full-session course is weighted 6; a half-session course is weighted 3. There are certain courses offered over the full-session or in a half-session, with weights of 1, 2, and 4. These courses are considered as one-sixth, one-third, and two-thirds of a full-session course, respectively. Some honors and graduate courses involving research may vary in weight according to the length and difficulty of the project. Some courses are offered for credit only, and carry a weight of 0.

The next three figures, enclosed in parentheses, indicate the hours of instruction required by the course in a week. The format is as follows: the first position indicates lecture hours; the second position indicates seminar hours (s), demonstration (d), clinic (c), or lecture-lab (L); and the third position indicates laboratory hours. The expression "3/2" means three hours of instruction every second week. If the course is a single-term course, the term in which it is offered is mentioned.

The appearance of a course description in the following list does not constitute any guarantee that the course will actually be offered in the forthcoming session. Information as to which courses will be offered, the names of the instructors, and all further details must be sought from the department concerned.

Physical Requirements for University

The University has a commitment to the education of all academically qualified students and special services are frequently provided on campus to assist disabled students.

Nevertheless, some courses make certain unavoidable demands on students, with respect to the possession of a certain level of physical skill or ability, if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the department concerned and the Disabled Student Services Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for off-campus courses, instructors may be obliged to refuse registration in such courses.

194.2 Prerequisites

Where a prerequisite is stated, it is understood that equivalent courses may be used to satisfy the requirement. In addition, the department offering a course with prerequisite requirements may waive the prerequisite in writing. (Prerequisite waiver forms are available from the Faculty of Science office and the Department offices.)

Note: Effective 1990-91, the Faculty of Science renumbered many of its courses. Tables listing the old and new numbers can be found under individual Department entries in §194.

94.3 Astronomy

Department of Physics

he following table lists renumbered courses effective 990-91:

Id	New
STRO 210	ASTRO 110
STRO 410	ASTRO 310

STRO 110 Astronomy
6 (3-0-0). This course provides an introduction to the stronomical universe. Topics range from the solar ystem to cosmology and from classical concepts to xotic objects such as collapsed stars and quasars. mphasis is placed on acquiring an understanding of the hysical processes underlying astronomical phenomena. ewing experience using the campus observatory will be cluded. Prerequisites: Mathematics 30 and Physics 30.

STRO 310 Astrophysics
6 (3-0-0). Summary of the concepts in physics and stronomy which are relevant to astrophysics; stellar pectra, atmospheres, interiors and evolution; galactic ructure; cosmology. Prerequisite: MATH 115 and PHYS 43 and a 200-level Physics or Mathematics. Some dditional knowledge of mathematics, astronomy, and hysics would be advantageous. Note: The following spe- alized courses in Astrophysics are offered by the Department Physics: PHYS 463, 465 (see §194.27 for details).

94.4 Biochemistry

Department of Biochemistry, Faculty of Medicine

Biochemistry courses are listed in the Faculty of edicine section of the Calendar. See §124.5

94.5 Biology

Departments of Botany, Genetics, Microbiology and Zoology (Science) in co-operation with the Departments of Entomology (Agriculture and Forestry) and Medical Microbiology (Medicine)

he following table lists renumbered courses effective 990-91:

Id	New	Old	New
IOL 200	BIOL 100	BIOL 302	BIOL 202
IOL 210	BIOL 110	BIOL 415	BIOL 315
IOL 297	GENET 197	BIOL 545	BIOL 445
IOL 301	BIOL 201		

IOL 110 Biology and the Modern World
3 (either term, 3-0-3). Biological basis for an ecology man including human origins, evolution, biological aculiarities and exploding populations; man's place in id influence on the biosphere; speculation concerning an's future. Demonstration laboratories and discus- ons. Credit will not be given for both BIOL 110 and OL 260. Also see §193.3.

IOL 201 Cellular Biology
3 (first term, 3-0-0). The ultrastructure and metabolism cells. Energy in biological systems; photosynthesis; illular respiration; contractility; cell growth and replica- n. Prerequisite: GENET 197. Prerequisite or corequisite: HEM 160 or 260.

IOL 202 Developmental Biology
3 (second term, 3-0-3). Formation of gametic cells, rtilization and embryogenesis in selected animal and ant groups. Major emphasis will be given to descriptive id mechanistic studies of tissues and organs. Prereq- sites: GENET 197, BOT 199, ZOOL 120, and BIOL 01 or ZOOL 242 (may be taken concurrently).

IOL 315 History and Theory of Biology
3 (first term, 3-0-0). An outline of biological discovery om early times to the present, and of the principal eas stemming from or influencing the life sciences; oth in relation to social, historical and cultural develop- ents. Especially recommended to honors and specializ- tion students in the biological subjects, but open to her third and fourth year students interested in the story of science as a force in the development of ulture. Prerequisite: A 200-level Biological Science ourse..

IOL 445 Cell Physiology
3 (second term, 3-0-0). Current advances in cell ology. The integration of biochemical and structural anges with cell function. Designed for third and fourth ar honors and specialization students in the biological ences. Prerequisite: A 300-level Biological Sciences ourse or consent of Department.

For graduate courses in biology see §204.10.2 of this Calendar.

194.6 Botany

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
BOT 205	BOT 199	BOT 402	BOT 492
BOT 208	BOT 130	BOT 404	BOT 302
BOT 301	BOT 201	BOT 405	BOT 305
BOT 302	BOT 210	BOT 406	BOT 306
BOT 309	BOT 219	BOT 407	BOT 310
BOT 310	BOT 220	BOT 408	BOT 330
BOT 320	BOT 230	BOT 409	BOT 419
BOT 321	BOT 231	BOT 410	BOT 431
BOT 323	BOT 333	BOT 411	BOT 433
BOT 324	BOT 240	BOT 421	BOT 435
BOT 325	BOT 250	BOT 450	BOT 440
BOT 379	BOT 383	BOT 455	INT D 455
BOT 400	BOT 490	BOT 460	BOT 411
BOT 401	BOT 491		

BOT 130 Introductory Ecology for Agriculture and Forestry Students
★3 (second term, 3-0-3). This course is designed to introduce Agriculture and Forestry students to the important concepts of ecology at all levels of the ecological hierarchy: individuals, populations, communities and ecosystems. Examples from crop, range and forestry ecology will be emphasized. Laboratory exercises will include experiments and demonstrations to illustrate and complement lecture material. Restricted to students in the Faculty of Agriculture and Forestry only.

BOT 199 Plant Biology
★3 (either term, 3-0-3). An introduction to the biology of plants emphasizing the relationship between form and function and the potential of the science. The following topics are covered: the cellular structure of plants; plant tissues and their functions; the classification of plants and the major groups, both prokaryotic and eukaryotic; the relevance of members of the major groups to human life; plant metabolism including water, nutrient and energy relations; growth and development of plants and their reproductive biology. Prerequisite: Biology 30 recommended. May not be taken for credit if credit has been obtained in BIOL 296 and BIOL 299, or in INT D 230.

BOT 201 The Plant Kingdom — Non-vascular Plants
★3 (first term, 3-0-3). A survey of the non-vascular plants emphasizing their origins and evolution; their morphology and life histories; their interrelationships and classifications and role in the environment. Prerequisite: BOT 199.

BOT 210 The Plant Kingdom - Vascular Plants
★3 (second term, 3-0-3). A comparative survey of vascular plants focussing on their morphology, classification and phylogeny. Emphasis is on living plant groups with some paleobotanical evidence presented. Prerequisite: BOT 199.

BOT 219 Plant Structure and Development
★3 (first term, 3-0-3). A developmental approach to the structure of vascular plants emphasizing seed plant cytology, apical meristems, histogenesis, organogenesis, secondary growth, floral anatomy and development. Principles of wood development, anatomy and identification. Prerequisite: BOT 199. BIOL 202 (recommended).

BOT 220 Plant Systematics
★3 (first term, 3-0-3). Systematic botany with emphasis on evolution and classification of seed plants. Discussion on the origin of variation in plants with emphasis on evolutionary processes unique to the flowering plants. Topics include a discussion of the basis of species differences, isolating mechanisms, natural hybridization, polyploidy, agamospermy, and other specialized genetic systems associated with the hybrid state in plants. Introduction to the concepts of nomenclature, cytotaxonomy, numerical taxonomy, and phylogenetic reconstruction. Laboratories will deal with the practical aspects of plant classification and identification techniques. Prerequisite: BOT 199.

BOT 230 Plant Ecology - Communities, Ecosystems and Vegetation
★3 (first term, 3-0-3). Ecological principles and relationships in the terrestrial part of the biosphere from a plant perspective. Complementary to BOT 231. Major topics include: plant communities; terrestrial ecosystems; vegetation and vegetation regions; species interactions; plant succession; classification and ordination of communities and ecosystems; vegetation survey and mapping. The laboratory component includes field trips as well as indoor exercises. Prerequisite: BIOL 100 or BOT 130 and either BOT 199 or ZOOL 120. May not be taken for credit if credit already obtained in BOT 322.

BOT 231 Plant Ecology - Individuals and Populations
★3 (second term, 3-0-3). Description of environmental parameters and their implications for individual plants. Patterns and processes of establishment, maintenance and spread of plant populations: demography, genecology, population regulation, interactions with other species including competition and consistence. Complementary to BOT 230. Laboratory comprises measurements of physiological responses of plants to various paramenters using the phytotron, and experiments designed to investigate characteristics of plant populations. Prerequisite: BIOL 100 or BOT 130 and either BOT 199 or ZOOL 120. May not be taken for credit if credit already obtained in BOT 322.

BOT 240 Whole Plant Physiology
★3 (first term, 3-0-3). An introductory general course on water and energy relations, evapotranspiration, mineral nutrition, membrane transport, ascent of sap, translocation, net assimilation, growth, development, hormone action and stress. Prerequisite: BOT 199, CHEM 100 or 104.

BOT 250 Cellular and Molecular Aspects of Plant Biology
★3 (second term, 3-0-0). An introduction to plant molecular biology. An examination of biochemical and molecular processes occurring in plants; protein synthesis; nucleic acid and protein synthesis; nitrogen fixation; phytochrome metabolism; and secondary plant metabolism. Prerequisite: BIOL 100 or BOT 199; CHEM 160 or CHEM 260.

BOT 302 Biology of Algae
★3 (first term, 3-0-3). Origins and evolution of algae; their comparative morphology, life histories and taxonomy; aspects of their ecology and physiology; adaptations to different habitats and environments; algae and symbiosis; economic aspects. Prerequisite: BOT 201. Offered in alternate years.

BOT 304 Field Botany
★3 (first term, 3-0-3). This course is designed to acquaint non-botany as well as botany students with the collecting, identifying and curating of the major groups of plants. Topics include selected taxonomic and phytosociological concepts, field methods, keys and identifications and herbarium methods. Effective handling of both specimens and field data for scientific purposes will be stressed. Plant collections prepared to acceptable herbarium standards will be required of those taking this course. There will be a transportation charge of $5.00 or less per person. Prerequisite: BIOL 100 or BOT 199.

BOT 305 Biology of Bryophytes
★3 (second term, 3-0-3). The identification, classification and morphology of mosses, hepatics, and hornworts. Special emphasis is given to phylogeny and ecology of mosses. Lectures include such topics as botanical nomenclature and cladistics as applied to bryophytes, phytogeography, and origins of land plants. The laboratories stress the comparative structure of bryophyte families and genera. Prerequisite: BOT 201. Offered in alternate years.

BOT 306 Biology of the Fungi
★3 (first term, 3-0-3). A systematic review of the major divisions and orders of the fungi with special emphasis on the identification and characterization of fungal groups which are economically important or significant components of the mycroflora of Western Canada. Traditional methods of handling and classifying the fungi will be discussed with reference to recent investigations concerning structure, ultrastructure, biochemistry and genetics. Ecological strategies of saprophytic fungi, and mechanisms of pathogenesis in species parasitic on plants, mammals, fish, reptiles and other animals, will be surveyed and compared. Current theories on the origin and evolution of fungi will be discussed. Prerequisite: BOT 201 or PL SC 380. Offered in alternate years.

BOT 310 Morphology and Evolution of Seed Plants
★3 (second term, 3-0-3). A morphological and evolutionary survey of seed plants. Discussion based primarily on living plants but with the inclusion of paleobotanical evidence. Emphasis upon seed ferns, cycads, conifers, dicotyledonous and monocotyledonous plants. (Offered in alternate years). Prerequisite: BOT 210.

BOT 330 Vegetation Science and Mathematical Ecology
★3 (second term, 3-0-3). Methods course consisting of: description, classification, and ordination of plant communities; inventory and mapping of vegetation; detection and description of spatial patterns and associations within and among plant populations; theory and practice of sampling; interpretation of field data. Lab consists of eight three-hour exercises. Prerequisite: BOT 230 and 231, MATH 115, STAT 237 or equivalents. Offered in alternate years.

BOT 333 The Ecology of Aquatic and Peatland Plants
★3 (second term, 3-0-3). An introduction to the ecology of freshwater, marine and peatland plants, communities

and ecosystems. Major topics covered are physical and chemical cycles; habitats, niche concepts and communities; the flora and its adaptations to the benthos, plankton and wetland habitats; dispersal and transport; succession including an introduction to paleolimnology; and paleostratigraphy of peatlands, including their evolution; growth and decline of populations, productivity; eutrophication, acidification; classification of peatlands; distribution of wetlands relative to climate; geological and hydrological factors. Prerequisite: BOT 199 or BIOL 100 and a 200-level Biological or Earth Sciences course.

BOT 380 Drug Plants of the World
★3 (second term, 3-0-0). A survey of the biology, historical uses, and systematics of important drug-producing plants. An evaluation of the chemistry of poisonous, allergenic, analgesic and hallucinogenic plants, and the current uses of such plant products in modern scientific research. Offered in alternate years to BOT 383. Prerequisite: BOT 199 or BIOL 100 and a 200-level Biological or Earth Sciences course.

BOT 381 Pollution Biology
★3 (second term, 3-0-0). A broad treatment of the ecological impact of natural and anthropogenic pollutants on aquatic and terrestrial ecosystems including effects of heavy metal contamination, acid rain, thermal pollution, air pollution, industrial effluents, hydrocarbons, eutrophication, and sewage on plants, plant communities and ecosystems. Topics will include evolution of adaptive ecotypes, stress physiology, biological indicators, fossil-indicators, current issues and progress towards pollution abatement. Prerequisite: BOT 199 or BIOL 100 and a 200-level Biological or Earth Sciences course. Offered in alternate years to BOT 382.

BOT 382 Plant Biotechnology
★3 (first term, 3-0-0). Lectures will cover the techniques used in modern plant biotechnology and will deal with the way this technology is being used to modify and improve economically important plant species. Topics covered will include cloning of plant genes; plant gene vectors; tissue culture clonal propagation and plant breeding. Prerequisite: GENET 197 and a 200-level Biological or Earth Sciences course. BOT 199 recommended. Offered in alternate years to BOT 381.

BOT 383 Biology of Economic Plants
★3 (first term, 3-0-0). Lectures will deal with the biology and utilization of economically important vascular and non-vascular plants emphasizing relevant morphology, physiology, distribution and history of use. Prerequisite: BOT 199 and a 200-level Biological or Earth Sciences course. Offered in alternate years to BOT 380.

BOT 411 Paleobotany
★3 (first term, 3-0-3). The fossil record of plants as it relates to the evolutionary history of existing groups. Prerequisite: A 300-level Biological or Earth Sciences course. Offered in alternate years.

BOT 419 Plant Microtechnique
★3 (second term, 3-0-3). Theory and practice of preparing plant cells and tissues for observation with light and scanning electron microscopy. Fixation, dehydration, embedding, sectioning, standard staining procedures, some histo-chemistry, use of light microscope, introduction to modern embedment media. Prerequisite: BOT 219 and a 300-level Botany course. Any course in Plant Biology recommended. Offered in alternate years.

INT D 421 Peatlands
★3 (first term, 3-0-3). Climatic, geologic and hydrologic factors of peatland development; ecosystem dynamics of peat formation including flora and fauna, biogeochemical cycles, and energy fluxes; stratigraphy and evolution; classification; utilization in forestry, agriculture, horticulture and as fuel. Two one-day field trips on Saturdays. Offered in alternate years. Prerequisite: A 100-level or higher Ecology course and a 300-level Soils course. (Offered jointly by the Departments of Botany and Soil Science.) [Soil Science]

BOT 431 Ecophysiology Ecology
★3 (first term, 3-0-3). Theory and practice of ecophysiological research. Design of experiment instrumentation, measurement of environmental parameters. Study of physiological responses of plants. Data processing and interpretation of results. Experiments in field and lab (Phytotron). Prerequisite: BOT 230 or 231 and a 300-level Biological or Earth Sciences course. Offered in alternate years.

BOT 433 Lake and Peatland Development
★3 (first term, 3-0-3). An introduction to field and laboratory techniques in studying lake and peatland histories along with a critical evaluation of the parameters used to make interpretations about their history. Parameters discussed include physical, chemical (clastic, organic and fossil pigments), and biotic (bryophytes, pollen, seeds, diatoms, chrysophytes). Both natural development and modified systems will be discussed. Prerequisite: BOT 201 and a 300-level Biological or Earth Sciences course. Offered in alternate years.

BOT 435 Plant Geography
★3 (second term, 3-0-0). The principles of plant geography. Patterns of plant distribution and their interpretation with respect to the evolution of floras. Prerequisite: BOT 210 or 230 or 231 and a 300-level Biological or Earth Sciences course. Offered in alternate years.

BOT 440 Physiology of Growth and Development
★3 (first term, 3-0-0). Lectures and seminars on the involvement of plant growth substances and pigments in the regulation of plant growth and development. The influence of environmental factors on this regulation will be emphasized. Prerequisite: BOT 250 and a 300-level Botany course. Offered in alternate years.

INT D 455 Molecular Plant Development
★3 (second term, 3-0-0). Recent advances in plant molecular biology will be introduced through a study of plant development at the molecular level. The course will examine how developmental processes can be used as model systems to study gene expression in higher plants. Both developmental regulation and stress induced alteration of gene expression will be covered using specific examples. Prerequisite: BOT 382 or PL SC 301. GENET 270 recommended. Offered in alternate years. Offered jointly by the Departments of Botany and Plant Science. [Botany].

BOT 490 Special Problems
★6 (3-0-3). Research project approved and supervised by a member of the Department of Botany. This is a required course for honors and Specialization students to be taken in their final year. Both a report and a seminar discussing the research topic are required. Prerequisite: A 300-level Botany course. Available to fourth year students only.

BOT 491 Special Problems
★3 (either term, 3-0-3). A project approved and supervised by a member of the Department of Botany. Prerequisite: A 300-level Botany course.

BOT 492 Special Problems
★3 (either term, 3-0-3). A project, approved and supervised by a member of the Department of Botany. Note: This course would enable a student to take two one-term projects in the same term or one in each of two different terms. Prerequisite: A 300-level Botany course.

For graduate courses in botany see §204.11.5 of this Calendar.

194.7 Cartography

Department of Geography

CART 345 Raster Cartography
★3 (first term, 3-0-3). A first course in the computer-assisted cartography of gridded data bases. Focus is on the display and analysis of physical information that can be derived from digital elevation models. Students will be introduced to a variety of graphic output devices and to some basic photographic/cartographic reproduction techniques. Prerequisite: GEOG 130 or GEOG 220.

CART 365 Introduction to Digital Cartography
★3 (second term, 3-0-3). Construction of spatial-statistical charts. Digitizing. Coordinate systems and projections. Elementary spatial data structures. Digital cartometry. Cartographic symbolism and products: point, line and polygon techniques; flow maps, choropleths, surfaces. Prerequisite: GEOG 220.

CART 445 Digital Remote Sensing
★3 (second term, 3-0-3). Digital image processing of multispectral remotely sensed information with emphasis on image enhancement and image classification. Applications include land use mapping, urban change detection, resource exploration and environmental monitoring. Prerequisite: CART 345 or FOR 410.

CART 465 Introduction to Geographic Information Systems
★3 (first term, 3-0-3). Introduction to computer data structures; sorting and searching. Topological vector structures for storage of points, lines and polygons. Algorithms for structure conversion. Aggregation and generalization. Geocoding. Optimization and modelling: shortest path, location-allocation, spatial interaction and regionalization. Prerequisite: CART 365 or equivalent; familiarity with a programming language, preferably Basic or Fortran.

CART 499 Senior Project in Geoprocessing
★6 (3-0-0). Student designed project in cartography, remote sensing or geographic information systems. Required of students completing Honors degree with emphasis in geoprocessing. Prerequisite: CART 445 or CART 465.

194.8 Chemistry

The following table lists renumbered courses effecti 1990-91:

Old	New	Old	New
CHEM 200	CHEM 100	CHEM 505	CHEM 40
CHEM 202	CHEM 104	CHEM 507	CHEM 40
CHEM 203	CHEM 103	CHEM 511	CHEM 31
CHEM 205	CHEM 105	CHEM 513	CHEM 41
CHEM 250	CHEM 160	CHEM 515	CHEM 41
CHEM 302	CHEM 204	CHEM 517	CHEM 41
CHEM 331	CHEM 241	CHEM 519	CHEM 41
CHEM 350	CHEM 260	CHEM 521	CHEM 42
CHEM 351	CHEM 261	CHEM 533	CHEM 43
CHEM 353	CHEM 263	CHEM 537	CHEM 43
CHEM 370	CHEM 270	CHEM 539	CHEM 43
CHEM 371	CHEM 271	CHEM 551	CHEM 46
CHEM 373	CHEM 273	CHEM 553	CHEM 46
CHEM 411	CHEM 311	CHEM 555	CHEM 46
CHEM 430	CHEM 330	CHEM 559	CHEM 46
CHEM 431	CHEM 341	CHEM 561	CHEM 46
CHEM 451	CHEM 361	CHEM 571	CHEM 47
CHEM 453	CHEM 363	CHEM 573	CHEM 47
CHEM 471	CHEM 381	CHEM 575	CHEM 48
CHEM 473	CHEM 383	CHEM 581	CHEM 48
CHEM 475	CHEM 375	CHEM 591	CHEM 49
CHEM 501	CHEM 401	CHEM 593	CHEM 49
CHEM 503	CHEM 40		

CHEM 100 Introductory University Chemistry
★6 (3-1s-3). Stoichiometry, ideal gases, calorimetr chemical energy, Hess' Law, equilibrium, acids, base bonding, solubility products, oxidation-reductio electrochemical cells and the Nernst equation, coordin tion chemistry, chemical kinetics, with applications inorganic chemistry. Prerequisite: Chemistry 30, equivalent. Students enrolled in MATH 113 or MAT 114 should register in CHEM 104.

CHEM 104 Introductory University Chemistry
★6 (3-1s-3). Stoichiometry, ideal gases, calorimetr chemical energy, Hess' Law, chemical equilibrium, a ids, bases, bonding, solubility products, oxidation-redu tion, electrochemical cells and the Nernst equatio coordination chemistry; chemical kinetics, with applic tions to inorganic chemistry. Designed for students w are taking, or have taken a university-level Mathemati course. Prerequisite: Chemistry 30, or equivale Corequisite: MATH 113 or 114, or equivalent.

CHEM 160 Organic Chemistry
★6 (3-0-3). The study of functional groups found in t main classes of organic compounds and their molecul conformation and stereochemistry in such a way that t chemistry of some molecules important to biology (e amino acids, proteins, medicinals, pesticides, fats, su ars, carbohydrates, nucleic acids) as well as son molecules found in everyday life (soaps, detergen fibers, perfumes, polymers, etc.) can be discusse Note: Students with credit in CHEM 100 or 104 norma will proceed to CHEM 260. Such students may enroll CHEM 160 only if written consent of Department obtained. Prerequisite: Chemistry 30 or equivalent.

CHEM 204 General Chemistry
★6 (3-1s-3). Introductory general chemistry designed those students with credit in university-level introducto organic chemistry. The course covers stoichiomet structure and bonding, chemical equilibrium, soluti chemistry, thermochemistry, electrochemistry and chemi kinetics with applications of the above theory to select examples drawn from inorganic chemistry. Note: St dents with credit in CHEM 160 will proceed to CHE 204. Credit in CHEM 204 will not be granted to studer with credit in CHEM 100, CHEM 104, or equivale Prerequisite: Chemistry 30 and CHEM 160. Reco mended Prerequisite or Corequisite: MATH 113 or 11 and 115 (strongly recommended for those planning take further courses in Chemistry).

CHEM 212 Quantitative Analysis
★6 (3-0-4). Principles, methods, and experimental ap cations emphasizing titrimetry, separatior spectrophotometry and evaluation of experimental da Includes examples of organic analysis, radiochemist atomic absorption spectroscopy, gas chromatograp and use of analytical literature. Prerequisite: CHEM 1 or 104 or 204.

CHEM 241 Inorganic Chemistry
★3 (second term, 3-0-3). Bonding, structure and cher cal properties of inorganic compounds with emphasis the main group elements. Note: This course may not taken for credit if credit has already been received CHEM 330. For Chemistry Honors and Specializati students only, except by consent of Department. Prere uisite or corequisite: CHEM 270 and CHEM 160 (260

CHEM 260 Organic Chemistry
★6 (3-0-3). The study of molecular structure and react ity of organic compounds of both biological a

dustrial interest. Special attention is given to the emistry of polymers, fats, peptides and carbohydrates. thods of structure determination are discussed. Note: idents who have obtained credit for CHEM 160, not take CHEM 260 for credit. Prerequisite: CHEM 0 or 104 204.

IEM 270 Elementary Physical Chemistry
(3-0-3). Introduction to the first and second laws of rmodynamics. Gibbs free energy; Clapeyron equa- n and phase equilibria; properties of solutions, Raoult's d Henry's Laws; chemical potential and the theory of emical equilibrium; kinetic theory of gases; chemical etics. Note: This course makes substantial use of culus, students with grades below 5 in MATH 115 are recommended to enroll. Prerequisite: CHEM 100 or 4 or equivalent; MATH 115 or equivalent.

IEM 313 Instrumentation in Chemical Analysis
(first term, 3-0-4). Instrumentation and analytical plications of spectroscopic, chromatographic and ctroanalytical methods are discussed and applied in laboratory. Prerequisite: CHEM 212; 270; six units of rse weight in junior Physics.

IEM 330 Inorganic Chemistry
(3-0-3). Basic bonding and structural principles of rganic compounds followed by a study of the periodic ble. Note: General Program students wishing to trans- into Specialization or Honors Chemistry programs be given three units of course weight credit for EM 330 and must take CHEM 341 to satisfy the quirements of these programs. Prerequisite: CHEM 4 (or 100 or 204); 260 (or 160).

IEM 341 Inorganic Chemistry
(first term, 3-0-3). A continuation of CHEM 241 with phasis on the transition metals. Note: For Chemistry nors and Specialization students only, except by nsent of Department. Prerequisite: CHEM 241; or EM 330 and consent of Department.

IEM 361 Organic Chemistry
(first term, 3-0-4). Mechanisms and reactions of matic and aliphatic compounds. Prerequisite: CHEM 4 (or 100 or 204); 260 (160).

IEM 363 Organic Chemistry
(second term, 3-0-4). A continuation of CHEM 361. erequisite: CHEM 361.

IEM 375 Atoms, Molecules and Electromagnetic diation
(second term, 3-0-0). A course dealing with atoms, olecules and electromagnetic radiation, and spectroscopic d photochemical applications of their interaction. The phasis is on the qualitative appreciation of the phe- mena and their uses. No credit is available for this urse in Honors or Specialization Chemistry Programs. erequisite: CHEM 270 and six units of course weight junior physics.

IEM 381 Advanced Physical Chemistry
(first term, 3-0-4). Quantum mechanics, atomic theory, ectroscopy and molecular properties and structure. erequisite: CHEM 270; MATH 215; and PHYS 238.

IEM 383 Advanced Physical Chemistry
(second term, 3-0-4). A continuation of CHEM 381. erequisite: CHEM 381.

IEM 401 Introduction to Chemical Research
(either term, 0-1s-8). Introduction to methods of emical research. For students in the fourth year of nors or Specialization Chemistry. Prerequisite: A 300- vel Chemistry course and a GPA of at least 7.0 in all emistry courses.

IEM 403 Chemical Research
(either term, 0-1s-8). Investigational work under the ection of a member of the Department. Prerequisite or requisite: CHEM 401.

IEM 405 Special Topics in Chemistry
(either term, 3-0-0). Prerequisite: A 300-level Chem- ry course.

IEM 407 Computing Applications in Chemistry
(second term, 3-0-3/2). Prerequisite: MATH 215. requisite: CHEM 383.

IEM 413 Electronics for Scientists
(second term, 3-0-3). An intensive, practical course th emphasis on basic instrument components, opera- nal amplifiers, digital circuits, and other electronic mponents of modern research instruments. Prerequi- e: A 300-level Chemistry course and consent of partment.

IEM 415 Analytical Electrochemistry
(second term, 3-0-3). Theory and application of larography, potentiometry, cyclic voltammetry, and her modern electroanalytical techniques. Prerequisite: IEM 313.

IEM 417 Analytical Spectroscopy
(second term, 3-0-3). Optical spectrochemical meas- ement systems are discussed including dispersive and interferometric spectrometers, detectors, lasers, readout systems and data processing. Techniques covered include all optical methods for analytical emission, absorption, luminescence and scattering measurements on atomic and molecular systems from the far-IR to the vacuum ultraviolet. Prerequisite: CHEM 313.

CHEM 419 Advanced Analytical Chemistry
★3 (first term, 3-0-0). Theory and practice of non-instrumental analysis. Includes use of complexation, electron transfer and kinetic reactions in analysis; acid-base equilibria in water and non-aqueous solvents; sampling and statistics. Prerequisite: CHEM 212, 260, and 270 and a 300-level Chemistry course.

CHEM 421 Analytical Separations
★3 (first term, 3-0-3). Theory and practice of gas and liquid chromatography, including column properties, adsorption, ion exchange, bonded phases, size exclusion, bandbroadening and detectors. Prerequisite: CHEM 313 and consent of Department.

CHEM 433 Structure in the Solid State
★3 (first term, 3-0-0). An introduction to X-ray crystallography. Prerequisite: CHEM 341.

CHEM 437 Transition Metal Chemistry
★3 (second term, 3-0-0). The synthesis, structures, bonding and reaction mechanisms of classical and organometallic complexes. Prerequisite: CHEM 341.

CHEM 439 Inorganic Reaction Mechanisms
★3 (first term, 3-0-0). Substitution and electron transfer reactions of transition metal ion compounds. Prerequisite: CHEM 341.

CHEM 461 Qualitative Organic Analysis
★3 (second term, 3-0-4). Introduction to techniques used in organic chemical research for separation (purification) and identification (structure elucidation). Special emphasis on combined use of modern spectroscopic methods. Prerequisite: CHEM 363.

CHEM 463 Chemistry of Carbohydrates
★3 (either term, 3-0-0). The physical and chemical properties of the carbohydrates and related substances are discussed in terms of conformational analysis and modern reaction theory. An appreciation of the organic chemistry derived from studies of polyoxygenated compounds. Prerequisite or corequisite: CHEM 363.

CHEM 465 Theoretical Organic Chemistry
★3 (first term, 3-0-0). A discussion of bonding and mechanisms of reactions of organic molecules, including resonance and reactive intermediates. Prerequisite: CHEM 363.

CHEM 467 Advanced Organic Synthesis
★3 (second term, 3-0-0). A study of the reactions of organic compounds with emphasis on advanced synthetic methods. Prerequisite: CHEM 363 and consent of Department.

CHEM 469 Natural Products
★3 (first term, 3-0-0). Structural relationships among secondary metabolites; bio-synthetic pathways, rearrangements and chemical transformations of acetogenins, alkaloids, flavonoids and isoprenoids. Prerequisite: CHEM 363.

CHEM 477 Molecular Spectroscopy and Structure
★3 (either term, 3-0-0). Important aspects of quantum mechanics applied to molecular spectroscopy. Prerequisite: CHEM 383.

CHEM 479 Kinetics, Surfaces, and Catalysis
★3 (second term, 3-0-0). Theories of reaction rates, catalysis in chemical reactions, physical chemistry of solids, liquids and surfaces. Students will find helpful a previous or concurrent half-course in probability and statistics, such as STATS 236. Prerequisite: CHEM 270, MATH 215, PHYS 237 and a 300-level Chemistry course.

CHEM 481 Chemical Thermodynamics
★3 (second term, 3-0-0). A continuation of chemical thermodynamics which enlarges upon the basic material in CHEM 270. Prerequisite: CHEM 270, MATH 215, PHYS 238 and a 300-level Chemistry course.

CHEM 483 Magnetic Resonance and its Chemical Applications
★3 (first term, 3-0-0). Quantum mechanics of spin systems; electron and nuclear resonance; relaxation and time-dependent phenomena; chemical applications. Prerequisite: CHEM 383.

CHEM 491 Radiation Chemistry
★3 (first term, 3-0-0). Interaction of radiation with matter, kinetics of radiolysis reactions. Prerequisite: CHEM 270; a 300-level Chemistry course and consent of Department.

CHEM 493 Molecular Spectroscopy
★3 (first term, 3-0-0). Use and importance of symmetry and group theory in electronic and vibrational molecular spectroscopy. Prerequisite: CHEM 383.

For graduate courses in chemistry see §204.14.4 of this Calendar.

194.9 Computing Science

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
CMPUT 214	CMPUT 114	CMPUT 411	CMPUT 311
CMPUT 215	CMPUT 115	CMPUT 413	CMPUT 313
CMPUT 261	CMPUT 161	CMPUT 415	CMPUT 315
CMPUT 262	CMPUT 162	CMPUT 418	CMPUT 319
CMPUT 269	CMPUT 169	CMPUT 421	CMPUT 321
CMPUT 272	CMPUT 172	CMPUT 422	CMPUT 322
CMPUT 305	CMPUT 204	CMPUT 426	CMPUT 325
CMPUT 326	CMPUT 225	CMPUT 430	CMPUT 329
CMPUT 351	CMPUT 251	CMPUT 435	CMPUT 334
CMPUT 352	CMPUT 252	CMPUT 440	CMPUT 340
CMPUT 357	CMPUT 157	CMPUT 441	CMPUT 341
CMPUT 380	CMPUT 280	CMPUT 451	CMPUT 350
CMPUT 385	CMPUT 285	CMPUT 458	CMPUT 358
CMPUT 392	CMPUT 291	CMPUT 474	CMPUT 374
CMPUT 401	CMPUT 301	CMPUT 480	CMPUT 379
CMPUT 405	CMPUT 304	CMPUT 485	CMPUT 384
CMPUT 406	CMPUT 306	CMPUT 492	CMPUT 391
		ENCMP 200	ENCMP 100

Note:

(1) Students enrolled in Honors and Specialization in computing science, and in other Faculty of Science Honors and Specialization programs will be given preference in registering for computing science courses required in these four-year programs.

(2) Credit for introductory computing science courses: Credit will be granted for only one of CMPUT 114, 157, 162, 251, 300 and ENCMP 100. Credit will be granted for only one of CMPUT 115 and 169.

(3) Students taking CMPUT 169 who want to pursue more advanced courses in computing science must take CMPUT 172 before entering second year computing science courses.

194.9.1 General Interest Courses

The following is a list of courses which, for the most part, are open to any student who satisfies the prerequisite and corequisite requirements. Any special restrictions are specified at the course level.

CMPUT 114 Introduction to Computing Science
★3 (first term, 3-0-3). Using a computer system; algorithms; introduction to programming in a procedural language such as PASCAL; concepts of programming style and organization; solution of elementary numerical and non-numerical problems. Corequisite: MATH 114 or 117, and MATH 120, or equivalents. See Note 2.

CMPUT 115 Programming with Data Structures
★3 (second term, 3-0-3). Review of programming principles; review categories of data types; study strings, linear and two-dimensional data structures (lists, stacks, queues, tables and trees); comparison of linked and contiguous representation of data structures; methods of searching, sorting, hashing and recursion. Prerequisite: CMPUT 114, MATH 114 or 117, MATH 120, or equivalents. Corequisite: MATH 115 or 118, or equivalents. See Note 2.

CMPUT 157 Introduction to Computing for Business Applications
★3 (either term, 3-0-3). Capabilities and limitations of computing systems; manipulation and storage of data in files; introduction to programming in a high-level language; survey of business applications. Formerly MGTSC 357. Open only to students in the Faculty of Business. See Note 2.

CMPUT 161 Introduction to Computation
★3 (either term, 3-0-3). Using a personal computer. Applications of computers: data bases, spreadsheets, word-processing, graphics, communications, etc. Brief introduction to programming. Computers in society. Only open to students who do not have credit in CMPUT 114, 157, 162, 251, 300 or ENCMP 100. Not available to Science students.

CMPUT 162 Introduction to Computers
★3 (second term, 3-0-3). Programming of non-numerical applications in a general-purpose high-level language on a personal computer. Disciplined programming, design of user-friendly programs. Prerequisite: CMPUT 161 or consent of Department. See Note 2. Not available to Science students.

CMPUT 169 Structured Programming and Data Structures
★3 (either term, 3-0-3). Syntax of a high-level structured language such as PASCAL, representation and manipulation of data structures by a high level langauage; recursion; representation of integers, reals; binary arithmetic; numerical error; data structures: strings, arrays,

linked lists, queues, trees; applications of data structures. Prerequisite: ENCMP 100, CMPUT 251 or equivalent; MATH 113, MATH 120, or equivalents. Corequisite: MATH 115 or equivalent. See Notes 2 and 3. Note: This course is designed to accommodate students who have taken a rigorous course in FORTRAN programming, and who wish to pursue more advanced courses in Computing Science.

CMPUT 172 Formal Systems and Logic in Computing Science
★3 (either term, 3-1s-0). An introduction to the tools of set theory, logic and induction, and their use in the practice of reasoning about algorithms and programs. Basic set theory. The notion of a function. Counting. Propositional and predicate logic and their proof system. Inductive definitions and proofs by induction. Program specification and correctness. Prerequisite: CMPUT 114 or equivalent. Corequisite: CMPUT 115 or 169.

CMPUT 251 Introduction to Programming for Scientific Applications
★3 (either term, 3-0-3). Basic programming techniques using a high level language; representation and manipulation of numeric and non-numeric data; survey of computing systems, history and applications. Prerequisite: MATH 113 or equivalent. See Note 2.

CMPUT 252 Elements of Scientific Computing
★3 (second term, 3-0-3). Scientific computing; computer design and function, interfacing with computers, fundamental numerical methods, use of mathematical and statistical packages; fundamentals of simulation. Prerequisite: CMPUT 251, or ENCMP 100 or CMPUT 114 and a knowledge of FORTRAN.

CMPUT 358 Numerical Analysis
★3 (either term, 3-0-3). An introduction to numerical methods with engineering applications. Topics include solution of nonlinear equations, interpolation, integration, matrix methods, and ordinary differential equations. Prerequisite: ENCMP 100 or equivalent; MATH 200 and 201. Credit cannot be obtained for more than one of CMPUT 319, 340, 358 or MATH 280.

194.9.2 Specialization and Honors Courses

The following courses are restricted to students registered in various Specialization and honors programs in the Faculty of Science, in the Computer Engineering program and Computer Process Control Option in the Chemical Engineering program. Detailed programs of study are listed in §193.1, §193.7, §83.3.5, and §83.5. Students should consult the appropriate section of the Calendar to ensure degree requirements are being met.

ENCMP 100 Computer Programming for Engineers
★3 (either term, 3-0-1.5). Computer programming with application to engineering problems: use of computer workstations, structured programming using FORTRAN, use of subprogram libraries, introduction to computer graphics, debugging techniques. Restricted to Engineering students only.

CMPUT 204 Algorithms I
★3 (either term, 3-0-1). The first course of a two course sequence on algorithm design and analysis stream, with the emphasis on the fundamentals such as searching, sorting and graph algorithms. Examples include divide and conquer, dynamic programming, greedy method, backtracking and local search methods. Analysis techniques will be developed to aid in judging program efficiency. Prerequisite: CMPUT 115 or 169, and CMPUT 172.

CMPUT 225 Programming Languages I
★3 (either term, 3-1s-2). A study of programming languages with regard to structural organization, syntactical structures, control structures, data structures and name structures. An investigation of procedural languages like Modula-2 and Ada which support modularity and data abstraction. An introduction to non-procedural languages including: Lisp, Prolog, and Smalltalk. Prerequisite: CMPUT 280.

CMPUT 280 Computer Organization and Architecture I
★3 (either term, 3-1s-2). An introduction to logic design and central processor architecture including adders, shifters, decoders, multiplexors registers, clocks, data representation, basic computer organization, CPU design and introduction to programming concepts. Credit cannot be obtained for both CMPUT 335 and CMPUT 280. Prerequisite: CMPUT 115 or 169, 172.

CMPUT 285 Computer Organization and Architecture II
★3 (either term, 3-1s-2). The second of two courses dealing with the fundamentals of computer architecture. A methodical discussion of number systems and arithmetic and basic computer organization including: assembly language programming, addressing, operations, subroutines and parameters input/output, DMA, and an analysis of specific architectures. Credit cannot be obtained for both CMPUT 285 and 330. Prerequisite: CMPUT 280.

CMPUT 291 Introduction to File and Database Management
★3 (either term, 3-0-3). Basic concepts in computer data organization and information processing; hardware devices, physical organization, and access methods for file storage; file I/O; introduction to database systems. Prerequisite: CMPUT 115 or 169, CMPUT 172.

CMPUT 301 Software Engineering
★3 (either term, 3-0-3). The software lifecycle: specifications, design, coding, testing, documentation and maintenance. Project organization including development tools, resource estimation, team organization and review. The class will organize and implement a complete software project. Prerequisite: CMPUT 225.

CMPUT 304 Algorithms II
★3 (first term, 3-0-0). The second course of a two-course sequence on algorithm design. Emphasis on principles of algorithm design. Categories of algorithms such as divide-and-conquer, greedy algorithms, dynamic programming; analysis of algorithms; limits of algorithm design; NP-completeness; heuristic algorithms. Prerequisite: CMPUT 204.

CMPUT 306 Intoduction to Image Processing
★3 (second term, 3-0-3). Introduction, history and applications; scanning and quantization; visual perception; output devices; pattern recognition; feature extraction, decision theory, classification rules; data representation and formats; image enhancement and restoration; edge detection, segmentation and texture; correlation and registration. Prerequisite: CMPUT 204 and 280.

CMPUT 311 Introduction to Computer Graphics
★3 (either term, 3-0-3). Graphical input and output devices primitives; segments; interactive input techniques; user interface design; windowing and clipping; 2-D and 3-D transformation; 3-D modeling and viewing; hidden-line and hidden-surface removal. Prerequisite: CMPUT 280.

CMPUT 313 Telecommunications and Computers
★3 (either term, 3-0-3). Overview of computer communication networks, analog and digital transmission; signal analysis; modulation; multiplexing; telephony; first three protocol layers of the OSI model: physical, data link, network. LAN configurations and protocols. Prerequisite: CMPUT 204 and 285.

CMPUT 315 Compiler Design
★3 (either term, 3-0-3). Compilers, interpreters, lexical analysis, syntax analysis, syntax directed translation, code generation, code optimization. Prerequisite: CMPUT 225.

CMPUT 319 Numerical Analysis I
★3 (first term, 3-0-2). An introduction to selected topics in numerical analysis. Areas covered will include floating point arithmetic and error analysis, systems of linear equation, interpolation, approximation, numerical integration and roots of nonlinear equations. Prerequisite: CMPUT 204, MATH 120 and 215. Credit cannot be obtained for more than one of CMPUT 319, 340, 358, MATH 280 or 486.

CMPUT 321 Simulation
★3 (second term, 3-0-3). Introduction to systems, models, and (digital computer) simulation. Discrete time step, continuous, and discrete event simulation paradigms, with examples from a variety of domains of application. Brief review of numerical integration and of generation and transformation of stochastic variates. Use of discrete and continuous simulation-oriented programming languages. Brief introduction to a formal framework for modelling and simulation. Prerequisite: STAT 221 or 265; CMPUT 319 or 340.

CMPUT 322 Analysis of Computer Systems I
★3 (first term, 3-0-3). An introduction to modelling in computer systems analysis. Categorizing different queueing models for various system and workload configurations; the application of known queueing results to different system situations is emphasized. Basic building blocks for simulating computer systems and their workloads are presented and implemented by programs; a system simulation language is introduced. These queueing and simulation tools are used to study memory scheduling, Disk I/O, processor sharing and communication links. Prerequisite: CMPUT 285, 291, and STAT 221 or 265.

CMPUT 325 Programming Languages II
★3 (either term, 3-0-3). A formal study of programming languages with emphasis on data abstraction. Structure of procedural, functional and object oriented languages. Interpretation versus compilation, concurrency, and special topics. Prerequisite: CMPUT 225.

CMPUT 329 Computer Design and VLSI Implementation
★3 (either term, 3-0-3). Design of digital circuits; fu[n]tional and structural representations; VLSI implemen[t]tions. Computer design languages. testing and verificati[on]. Digital arithmetic. Prerequisite: CMPUT 285.

CMPUT 334 Computer Systems and Architecture
★3 (either term, 3-0-3). An investigation of compu[ter] system design concepts including requirements, spec[if]cations, implementation and modification. Instruct[ion] sets, arithmetic/logic unit design, bus structures, [me]structures, control organization and implementati[on]. Discussion and use of hardware description languag[e]. Prerequisite: CMPUT 285.

CMPUT 340 Introduction to Numerical Methods
★3 (first term, 3-1s-3). Introduction to computer arithm[e]tic and errors. The study of computational methods [for] solving problems in linear algebra, non-linear equatio[ns], interpolation and approximation, integration and or[di]nary differential equations. The aim is to teach [the] student how to use mathematical subroutine packag[es] currently available in computer libraries. Prerequisi[te:] CMPUT 172, MATH 120 and 214. Credit cannot [be] obtained for more than one of CMPUT 319, 340, 358, MATH 280 or 486.

CMPUT 341 Numerical Software
★3 (second term, 3-0-3). The design and implementat[ion] of efficient and reliable programs for numerical comput[a]tion. Special emphasis will be placed on the investigat[ion] of stability, robustness and portability of numerical s[of]ware. Prerequisite: CMPUT 340, or 358, or 419.

CMPUT 350 Introduction to Artificial Intelligence
★3 (either term, 3-0-3). Problem representation, sear[ch], inference, and learning in intelligent systems; syste[ms] for general problem solving, game playing, deducti[ve] expert consultation, computer vision, concept formati[on] and natural language understanding. Prerequisite: CMP[UT] 204 and 225.

CMPUT 374 Formal Languages, Automata, and Computability
★3 (second term, 3-0-0). Formal grammars; normal form[s]; relationship between grammars and automata; regu[lar] expressions; finite state machines; state minimizati[on]; pushdown automata; Turing machines; computability; [the] Halting Problem; introduction to recursive function the[ory]. Prerequisite: CMPUT 204, MATH 223 or 382.

CMPUT 379 Operating System Concepts
★3 (either term, 3-0-3). Definition of a process; proc[ess] states and state transitions; process control block; [op]erations on processes; interrupt processing; para[llel] processing; resource allocation; shared and unsha[red] allocation; critical sections; semaphores; deadlock; deadl[ock] prevention, avoidance, detection and recovery; mem[ory] management; memory allocation schemes; virtual memo[ry]: paging and segmentation; page replacement strategi[es]; working sets; demand paging; job and processor sch[ed]uling; scheduling levels, objectives and criteria; vari[ous] scheduling algorithms; multi-processor consideratio[ns]; file system functions; file organization; tree structu[red] file systems; space allocation; file catalogs; file acc[ess] control mechanisms; operating systems security. P[re]requisite: CMPUT 204, 225, and 285.

CMPUT 384 Systems Programming
★3 (either term, 3-0-3). Introduction to VM/SP ([a] virtual machine concept); the IBM-370 architecture [as a] reminder); correlation between various components [of a] computing system (CPU, memory, channels, i/o [de]vices); interrupt handling (hardware prerequisites, in[ter]rupt classes and priorities, programming interrupt handle[rs] a simple operating system for the IBM-370 (process [and] CPU scheduling, SVC requests); memory organiza[tion] (mapping techniques, virtual memory); VM implemen[ta]tion (virtual CPU states, shadow tables); other comp[uter] architectures and their specific operating system im[ple]mentation problems: machines without interrupts (CI[BER] 6000/7000 series), and supercomputers (Cray, Cy[ber] 205). Prerequisite: CMPUT 204, 225, and 285.

CMPUT 391 Database Management Systems
★3 (either term, 3-0-3). Logical data modeling proc[ess]; relational database design (normalization), qu[ery] processing, transaction management, new technolog[ical] trends (distributed databases, object-orientation, kn[ow]ledge base systems). Prerequisite: CMPUT 291.

CMPUT 419 Numerical Analysis II
★3 (second term, 3-0-2). An introduction to selec[ted] topics in numerical analysis. Areas covered will incl[ude] ordinary differential equations, approxiamtion the[ory], boundary value problems and partial differential eq[ua]tions. Prerequisite: CMPUT 319, MATH 121 or 2[30]. Corequisite: MATH 334 or 336. Credit may not [be] obtained in both CMPUT 419 and MATH 487.

CMPUT 495 Honors Seminar
★0 (either term, 0-1s-0). Prerequisite: A 300-level C[om]puting Science course. Note: Required of all Hon[ours] Computing Science students during their degree progr[am]

PUT 496 Topics in Computing Science
(first term, 3-0-0). Prerequisite: A 300-level Comput-Science course.

PUT 497 Topics in Computing Science
(second term, 3-0-0). Prerequisite: A 300-level Com-ng Science course.

PUT 498 Topics in Computing Science
(first term, 3-0-3). Prerequisite: A 300-level Comput-Science course.

PUT 499 Topics in Computing Science
(second term, 3-0-3). Prerequisite: A 300-level Com-ng Science course.

or graduate courses in Computing Science see 4.19.5 of this Calendar.

4.10 Entomology

following table lists renumbered courses effective 1-92:

	New	Old	New
T 220	ENT 120	ENT 417	ENT 317
T 307	ENT 207	ENT 419	ENT 319
T 380	ENT 280	ENT 421	ENT 321
T 392	ENT 292	ENT 470	ENT 370
T 400	ENT 300	ENT 471	ENT 371
T 401	ENT 301	ENT 560	ENT 460
T 408	ENT 308		

T 120 Introduction to Insect Biology
(either term, 3-0-3). An introduction to the structure, ction, ecology, and systematics of insects with em-asis on the regulation of their metabolism, locomotion, roduction and development on the evolution of the ers and on the interactions and relationships of cts with other organisms including man. Prerequisite: logy 30. Restriction: Not open to students with credit ny Entomology course.

T 207 Agricultural Entomology
(either term, 3-0-3). Introduction to insects and ated arthropods emphasizing those aspects of their ucture and life history responsible for some of them coming pests and indicating those aspects towards ich control measures can be directed. Principles of grated control. Prerequisite: one of BIOL 100, GENET 7, ZOOL 120 or BOT 199.

T 280 Forest Entomology
(second term, 3-0-3). Characteristics of major North erican forest insects. Roles of insects in forest eco-stems. Insects destructive to wood and wood prod-s. Principles of control. Prerequisite: Biology 30 and t year Chemistry (CHEM 160 recommended). Not en to first year students.

T 292 Medical and Veterinary Entomology
(either term, 3-0-3). An introduction to the arthro-ds and an account of their influences on the health of n and other animals. Prerequisite: Six units of course ight in Biology, Entomology or Zoology. Not open to t year students.

T 300 Project in Basic Entomology
(0-1s-6). Individual study. Provides students with an portunity to pursue an area of interest in detail. This is complished through guided reading, discussions with faculty member and usually conducting a limited search project. Students must have the agreement of least one faculty member who will act as supervisor the course. As the project may require summer llecting or field work, students are strongly encour-ed to find a faculty member who agrees to supervise eir work, at least six months prior to enrolling in the urse. Prerequisite: Any three units of course weight in tomology at the 200-level or higher.

T 301 Project in Basic Entomology
3 (either term, 0-1s-6). Individual study. Provides udents with the opportunity to investigate through ided reading and discussion with a faculty member of eir choice, the literature on one or more topics in basic tomology. According to circumstances and inclination, nited experimental work might be undertaken. Prereq-site: Any three units of course weight in Entomology at e 200-level or higher.

NT 308 Principles of Insect Pest Management
3 (first term, 3-0-3). Application of ecological principles d pest management tactics in development of inte-ated control strategies. Biological characteristics of sts and use of population models are emphasized. conomic considerations in pest management. Term aper required. Prerequisite: Any three units of course eight in Entomology at the 200-level or higher, an troductory course in ecology, a course in Computing cience, and a course in Statistics.

NT 317 Comparative Morphology
3 (first term, 3-0-3). Comparative morphology of the major orders of insects and the evolution of some of their structures. Prerequisite: ZOOL 252 and 253.

ENT 319 Insect Development
★3 (second term, 3-0-3). Reproduction, embryonic and postembryonic development in insects. Prerequisite: BIOL 202 or ENT 317.

ENT 321 Insect Function
★3 (second term, 3-1s-3). Life processes at the molecular, cellular, and organ levels, emphasizing those characteristics of insects and their relatives. Prerequisite: CHEM 160 and six units of course weight in Entomology and/or Zoology at the 200-level or higher.

ENT 370 Project in Applied Entomology
★6 (0-1s-6). Individual study. Provides student with an opportunity to pursue an area of interest in detail. This is accomplished through guided reading, discussions with a faculty member and usually conducting a limited research project. Students must have the agreement of at least one faculty member who will act as supervisor for the course. As the project may require summer collecting or field work, students are strongly encouraged to find a faculty member who agrees to supervise their work, at least six months prior to enrolling in the course. Prerequisite: Three units of course weight in Entomology at the 200-level or higher.

ENT 371 Project in Applied Entomology
★3 (either term, 0-1s-6). Individual study. Provides students with the opportunity to investigate through guided reading and discussion with a faculty member of their choice, the literature on one or more topics in applied entomology. According to circumstances and inclinations, limited experimental work might be undertaken. Prerequisite: Three units of course weight in Entomology at the 200-level or higher.

ENT 427 Insect Taxonomy
★3 (second term, 2-0-6). The higher taxa of insects and their relationships. Practice in identification. Prerequisite: ENT 317.

ENT 460 Insect Ecology
★3 (first term, 2-0-4). Relationships of insects to their environment. Community interactions. Laboratory will consist of field trips. Prerequisite: ZOOL 331 or ENT 308 and three units of course weight of animal ecology.

ENT 527 Insect Taxonomy
★3 (second term, 3-0-3). Literature of insect taxonomy. Principles and procedures. Speciation, phylogeny and zoogeography. Preparation of taxonomic papers. Prerequisite: Consent of instructor; ENT 427 recommended.

ENT 561 Advanced Insect Ecology
★3 (second term, 2-0-4). Behavioral aspects of insect ecology. Responses of insects to the biological and physical environment. Circadian activity rhythms. Prerequisite: ENT 460.

194.11 Genetics

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
GENET 265	GENET 165	GENET 419	GENET 319
GENET 370	GENET 270	GENET 464	GENET 364
GENET 375	GENET 275	GENET 470	GENET 371
GENET 380	GENET 280	GENET 481	GENET 381
GENET 400	GENET 300	GENET 490	GENET 390
GENET 404	GENET 304	GENET 501	GENET 401
GENET 408	GENET 308	GENET 506	GENET 406
GENET 412	GENET 312	GENET 507	GENET 407
GENET 415	GENET 315	GENET 520	GENET 420
GENET 418	GENET 318	GENET 521	GENET 421

GENET 165 Genetics and Human Welfare
★3 (first term, 3-0-0). An introduction to the genetics of human development and variability. The analysis of human DNA, genes and chromosomes will lead to discussions of: human diseases; prenatal diagnosis; viruses; cancer; applications of biotechnology and human evolution. Note: Students with credit in GENET 197 cannot receive credit in GENET 165. Students with credit in GENET 165 may register in GENET 197 or GENET 351 for credit. Students with credit in GENET 197 may wish to register in GENET 275. Prerequisite: Biology 30. Also see §193.3.

GENET 197 Heredity
★3 (either term, 3-0-3). The cellular and molecular basis of the transmission of hereditary characteristics: Mendelian inheritance and its cytological basis; microbial genetics; cytoplasmic inheritance; linkage and genetic mapping; DNA as genetic material; gene action; the genetic code. Note: Students cannot receive credit for both GENET 197 and GENET 351. Those taking GENET 197 should take GENET 275 for the equivalent of GENET 351. Prerequisite: Biology 30.

GENET 270 Foundations of Molecular Genetics
★3 (first term, 3-0-0). Basic concepts on the organization of genetic material and its expression will be developed from experiments on bacteria and viruses. Prerequisite: GENET 197.

GENET 275 The Genetics of Higher Organisms
★3 (either term, 3-0-3). A comprehensive survey of the principles of genetics of eukaryotes. Gene structure and function; Mendelian genetics; cytoplasmic inheritance; cytogenetics; biochemical genetics; somatic cell genetics. Emphasis will be placed on examples from human genetics. Prerequisite: GENET 197.

GENET 280 Basic Population Genetics
★3 (first term, 3-1s-0). Introduction to the genetics of evolutionary processes in experimental and natural populations. The seminar periods are used to discuss recent papers in population genetics. Prerequisite: GENET 197.

GENET 300 Genome Organization
★3 (second term, 3-0-0). The prokaryotic genome: the bacterial chromosome; the episome concept; development of cloning vectors; transposable elements and genomic rearrangements. The eukaryotic genome: eukaryotic chromosomes; repeated gene families; DNA sequence mobility; gene amplification; germline transformation. Prerequisite: GENET 270 (BIOCH 301 is recommended).

GENET 304 Gene Expression and its Regulation
★3 (second term, 3-0-0). Molecular mechanisms of transcription and translation in both prokaryotes and eukaryotes. Strategies of gene regulation are examined at the molecular level. Prerequisite: GENET 270.

GENET 308 Replication, Repair and Recombination
★3 (first term, 3-1s-0). DNA replication, repair and recombination in prokaryotes and eukaryotes. Origins of DNA variation by mutation. Prerequisite: GENET 270. Note: This course is normally recommended for 4th year students.

GENET 312 Genetic Control of Development
★3 (first term, 3-1s-0). Gene action during development; identification and analysis of the network of genetic elements regulating developmental decisions. Prerequisite: GENET 275 and GENET 270.

GENET 315 Cytogenetics
★3 (first term, 3-1.5s-0). The eukaryotic chromosome: mitosis and meiosis in normal and anomalous cells and individuals; experimental manipulation of karyotypes; the organization and function of the interphase nucleus. Prerequisite: GENET 275.

GENET 318 Human Genetics
★3 (second term, 3-1s-0). A survey of human genetic variation and mutation in a molecular genetics context. Chromosomal abnormalities, cancer cytogenetics, population genetics, DNA polymorphisms linked to diseases, gene mapping, applications to genetic counselling, ethical issues. Prerequisite: GENET 275 and GENET 280.

GENET 364 Plant Genetics
★3 (first term, 3-0-0). A survey of genetic phenomena unique to or characteristic of higher plants, with emphasis on explanation at the molecular level. The relationship between molecular or somatic cell genetics and plant breeding will be discussed. Prerequisite: GENET 270.

GENET 371 Immunogenetics
★3 (first term, 3-0-0). The inheritance of cell characters identifiable as antigens. The ontogeny and expression of cell antigens. Physiological and biochemical characteristics linked to cell antigens. Experimental and natural chimaerism in chordates. Prerequisite: GENET 270 or 351. One course in Immunology is recommended.

GENET 381 Population Genetics
★3 (second term, 3-1s-0). The genetic structure of natural populations. Equal emphasis on mathematical theory and data from natural and experimental populations. Prerequisite: GENET 280.

GENET 390 Biochemical Genetics of Microorganisms
★3 (either term, 3-0-0). *In vitro* manipulation of genes with an emphasis on applications to biotechnology. Bacterial, yeast, plant and animal vector systems. Enzymology of DNA manipulation. Electrophoresis of nucleic acids and proteins. Hybridization techniques for the identification of nucleic acids and proteins. Hybridization techniques for the identification of nucleic acid sequences. cDNA and genomic DNA cloning and screening. *In vitro* mutagenesis. Prerequisite: GENET 270, BIOCH 301, MICRB 193.

GENET 401 Research Project
★6 (0-0-6). Directed research carried out in the laboratory of an assigned member of the Genetics Department. The project would normally continue through both the first and second terms of the Winter Session, and would culminate in a written report. Students in the Honors Cell Biotechnology program take either GENET 401 or MICRB 498. Prerequisite: A 300-level Genetics course.

GENET 406 Reading Project
★3 (either term, 3-0-0). Directed reading and essays carried out in conjunction with an assigned faculty member. Note: An undergraduate student cannot take more than two of GENET 406 or GENET 407 (either two of 406, two of 407 or one of each.) Students in the Genetics Honors program may take two of GENET 407 or one of each of GENET 406 and GENET 407. Honors students are obliged to take GENET 407 at least once. Students not in the Genetics Honors program must obtain prior consent of Department. Prerequisite: A 300-level Genetics course.

GENET 407 Research Project
★3 (either term, 0-0-6). Directed laboratory research culminating in a report and oral presentation. Carried out in conjunction with an assigned faculty member. Note: An undergraduate student cannot take more than two of GENET 406 or GENET 407 (either two of 406, two of 407, or one of each.) Students in the Genetics Honors program may take two of GENET 407 or one of each of GENET 406 and GENET 407. Honors students are obliged to take GENET 407 at least once (see "Note B" §193.9.1). Students not in the Genetics Honors Program must obtain prior consent of Department. Prerequisite: A 300-level Genetics course.

GENET 420 Research Techniques in Molecular Genetics
★6 (either term, 0-0-12). A laboratory course emphasizing modern techniques in bacterial and phage genetics, restriction analysis of DNA, and plasmid construction by *in vitro* recombinant DNA techniques. Prerequisite: GENET 300 and 304 and consent of Department. Designed for undergraduate and graduate students in Genetics programs and other programs with molecular biological orientation.

GENET 421 Research Techniques in Classical and Molecular Cytogenetics
★6 (0-0-6). A laboratory course offered to senior undergraduate and graduate students in biology. Laboratory work will involve techniques used in the analysis of eukaryotic chromosome structure and function. Prerequisite: GENET 315 and consent of Department.

For graduate courses in genetics refer to §204.34.4 of this Calendar.

194.12 Geography

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
GEOG 230	GEOG 130	GEOG 449	GEOG 349
GEOG 231	GEOG 131	GEOG 504	GEOG 404
GEOG 267	GEOG 367	GEOG 520	GEOG 425
GEOG 317	GEOG 217	GEOG 530	GEOG 431
GEOG 320	GEOG 220	GEOG 531	GEOG 432
GEOG 321	GEOG 221	GEOG 532	GEOG 434
GEOG 322	GEOG 222	GEOG 533	GEOG 435
GEOG 324	GEOG 224	GEOG 540	GEOG 440
GEOG 344	GEOG 244	GEOG 537	GEOG 447
GEOG 350	GEOG 250	GEOG 538	GEOG 452
GEOG 360	GEOG 260	GEOG 539	GEOG 459
GEOG 364	GEOG 264	GEOG 551	GEOG 461
GEOG 381	GEOG 281	GEOG 553	GEOG 453
GEOG 382	GEOG 282	GEOG 555	GEOG 462

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
GEOG 217	GEOG 223	GEOG 434	GEOG 532
GEOG 224	GEOG 262	GEOG 435	GEOG 533
GEOG 334	GEOG 333	GEOG 440	GEOG 540
GEOG 431	GEOG 530	GEOG 447	GEOG 537
GEOG 432	GEOG 531		

Note:

(1) Students are responsible for their own accommodation and meal expenses for the following geography courses which involve overnight field trips: GEOG 223, 330, 331, 438, 439, 465.

(2) Description of GEOG 200 and other geography courses and interdisciplinary courses considered to be Arts courses will be found in the Faculty of Arts section of this Calendar (§44.18). Courses in cartography and meteorology offered within the Department of Geography are listed in §194.7 and §194.21.

(3) GEOG 130 and 131 do not have to be taken in sequence; they are completely separate courses. Either one may be taken without the other, and GEOG 131 can be taken before GEOG 130.

(4) No first year students, regardless of their faculty, will be admitted to 200-level courses. Only third- and fourth-year students, regardless of their faculty, will be admitted to 300-level courses.

GEOG 130 Introductory Physical Geography I
★3 (either term, 3-0-3). Introduction to geomorphology: the nature and formation of major landform features of the earth's surface. Rock weathering and slope movements. Landforms developed by erosional and depositional processes of rivers, glaciers, winds, waves and currents. Laboratory work required.

GEOG 131 Introductory Physical Geography II
★3 (either term, 3-0-3). Introduction to the atmosphere and biosphere. Physical elements of weather and climate. Causes, changes and patterns of weather. Climatic classification. Spatial and dynamic interrelations of climate, soils and vegetation. Laboratory work required. Note: GEOG 130 does not have to precede GEOG 131.

GEOG 220 Introduction to Statistical Methods and Computing in Geography
★3 (first term, 3-0-2). Introduction to statistical methods and computing for physical and human geographers. The MTS ("MIDAS) system, and IBM-PC statistical software. Application of conventional statistical methods to geographical problems: description, comparisons, relationships, and trends. Spatial statistics. Prerequisite: One of GEOG 150, 151 and one of GEOG 130, 131.

GEOG 221 Field and Laboratory Methods in Physical Geography
★3 (first term, 3-0-1). Introduction to field mapping, elementary survey methods, and sample collection. Laboratory and data analysis. A weekend field trip may be required. Prerequisites: GEOG 130, 131.

GEOG 223 Aerial Photographic Interpretation in Geography
★3 (second term, 1-0-6). Introduction to the interpretation of aerial photographs including landforms, soils, vegetation, hydrography, agricultural and urban systems, resources, communications and recreation. Particular stress on Albertan and Canadian examples. A two-day field trip is required. Prerequisite: GEOG 130 or equivalent.

GEOG 262 Introduction to Resource Studies in Geography
★3 (either term, 3-0-0). Discussion of global patterns of resources — land, food, water, minerals; renewable and non-renewable resources; basic concepts in resources management; role of perception, attitudes and behavior in resource development. Prerequisite: One of GEOG 130, 131; one of GEOG 150, 151.

GEOG 330 Intermediate Physical Geography I
★3 (first term, 3-0-3). Landform processes and morphologies with stress upon local and regional examples. Field work required. Prerequisite: A 200-level Geography science course.

GEOG 331 Basic Biogeography
★3 (second term, 3-0-3). The links between geomorphology and plant-animal environments will be covered through a biogeographical approach to ecological studies. Studies of the winter environment and the ecological role of snow. Plains and alpine field trips. Prerequisite: A 200-level Geography science course.

GEOG 333 Physical Climatology
★3 (second term, 3-0-0). An examination of the processes influencing climate on the global, regional and local scales. Radiation and energy in the earth-atmosphere system. Past, present, and future climates. Assignments include interpretation of climate data. Prerequisite: A 200-level Geography science course.

GEOG 336 Environment Alberta
★3 (either term, 3-0-0). The physical environment of Alberta. Regional variation in the patterns of climate, landforms, water, soils, vegetation and wildlife; the geographic synthesis of these patterns to give a broad understanding and appreciation of the province and its environmental problems. Prerequisite: A 200-level Geography course.

GEOG 383 Cadastral Studies
★3 (either term, 3-0-0). The interrelationships between land tenure, boundaries, parcels, survey systems, settlement patterns, land registration systems and multipurpose geographical information systems. The need for locational parameters to define land parcels for taxation, registration, sub-division, surveys and land information. Prerequisite: CIV E 350.

GEOG 404 Reading and Seminar Course
★3 (either term, 0-3s-0). Prerequisite: A 300-level Geography course.

GEOG 420 Intermediate Quantitative Methods in Geography
★3 (either term, 3-0-0). The application of multivariate statistical methods to geographical problems. Prerequisite: A 300-level Geography course. Offered in alternate years.

GEOG 421 Advanced Surveying
★3 (either term, 3-0-3). Study of horizontal and vertical positioning procedures — traversing, triangulation, trilateration, precision levelling, inertial surveying, satellite surveying; Layout and monitoring surveys Gyrotheodolite — principles and usage; Error propogation pre-analysis and design of surveys; Error sources i survey measurements; Testing and calibration of surveying instruments. Prerequisite: CIV E 350, CIV E 351 MATH 205, MATH 206, STAT 235. Note: GEOG 421 wi be offered in alternate years with GEOG 383.

GEOG 425 Application of Quantitative Methods and Computer Programming in Geography
★3 (either term, 3-0-0). Corequisite: GEOG 420 an consent of Department.

GEOG 430 Fluvial Geomorphology
★3 (first term, 3-0-0). Analysis of river behavior, channe processes and fluvial landforms. Field work require Prerequisite: GEOG 330.

GEOG 433 Microclimatology
★3 (either term, 3-0-0). Introduction to the physic processes determining microclimate. Radiative transpo of heat. Convective transport of heat, water vapor, an momentum. The role of turbulent mixing. Soil he transfer. Heat and water vapor budgets. Surface energ balance. Interpretation of the microclimatology of un form (desert, lake/ocean, snowpack, crop/forest canopy and non-uniform surfaces. Prerequisite: MATH 115 an GEOG 331 or 333.

GEOG 437 Desert Geomorphology
★3 (second term, 3-0-0). A systematic and regiona survey of the geomorphology of the world's dry lands the low and mid-latitudes. Prerequisite: GEOG 330.

GEOG 438 Mountain Geomorphology
★3 (either term, 3-0-3). Analysis of the major landform and geomorphic processes in mountain areas. Topic will include glaciers, avalanches, action of running wa ter, periglacial and mass-wasting processes. Field trip may be required. Prerequisite: GEOG 330 or 331 GEOL 201.

GEOG 439 Environmental Hazards
★3 (second term, 3-0-0). Analysis of natural hazard presented to man by the physical environment. Topic will include floods, earth dynamics, mass movement avalanches, drought, and violent storms. Prerequisit One of GEOG 330 or 331 or GEOL 201.

GEOG 445 Northern Lands I
★3 (either term, 3-0-0). A synthesis of the physic geography of northern Canada with comparisons other circumpolar lands. Emphasis on events and pro esses which have formed the northern landscape. I cludes such topics as climate/climatic change, permafro glaciation and sea ice. Prerequisite: A 300-level Geograp course.

GEOG 452 Tundra Ecology/Biogeography
★3 (first term, 3-0-0). Lectures and discussions on th structure and function of arctic (tundra) ecosystem Topics will include: evolution of the arctic environme and the flora and fauna; climate, microclimate and soil present plant and animal communities; ecophysiologic adaptations of organisms to the arctic environment; a current development; conservation issues in the Arcti Prerequisite: BOT 230 or 231 or GEOG 331 or ZOO 231.

GEOG 453 Special Research Problems I
★6 (3-0-0). Prerequisite: A 300-level Geography cours

GEOG 459 Seminar in International Development, Natural Resources and Environmental Hazards
★3 (either term, 3-0-0). Seminar course which examin the role of international development in natural resour managment and environmental hazards in the develo ing world. Prerequisite: GEOG 439 and the consent Department.

GEOG 461 Research in Physical Geography I
★3 (either term, 3-0-0). Prerequisite: A 300-level Geo raphy course.

GEOG 462 Research in Physical Geography II
★3 (either term, 3-0-0). Prerequisite: A 300-level Geo raphy course.

INT D 464 Northern Studies
★3 (second term, 3-0-0). An examination of curre environmental research in the Canadian North. Ser nars are presented by government and industry profe sionals engaged in various facets of northern researc Prerequisite: GEOG 466 or ZOOL 466. Corequisi GEOG 466 or ZOOL 366. (Offered by the Boreal Institu for Northern Studies and the Department of Geograph [Geography]

GEOG 465 Biogeography Field Studies
★3 (either term, 0-0-6). A field course requiring origi work. The term in which the course is taken will det mine the nature of the projects which may include w on the following: climatic processes (emphasizi bioclimate), ecological processes (emphasizing limiti factors), environmental modification by man. Seco term registrants will have the opportunity to cond

winter research. Field work required. Prerequisite: GEOG 331 or AN SC 351. The course can be taken concurrently with GEOG 466 or ZOOL 366. Offered in alternate years.

GEOG 466 Boreal Ecology and Northern Development
★3 (first term, 3-0-3). Ecological characteristics and processes of the north. Taiga, forest-tundra and tundra biome characteristics such as climates, geomorphic processes, wildfires, soils, plant and wildlife communities will be emphasized. Northern development and ecological concerns, including rehabilitation of facilities resulting from mineral and hydrocarbon resource exploitation; short and long-term characteristics of man-induced disturbances. Prerequisite: GEOG 331 or AN SC 351.

GEOG 468 The Physical Geography of Water Resources
★3 (first term, 3-0-0). Local, regional, and world patterns of water supply. Precipitation, evapotranspiration, streamflow, soil moisture, groundwater, and their relationships in water balance. Prerequisite: A 300-level Geography course.

GEOG 469 The Geography of Water Management
★3 (second term, 3-0-0). Man's decisions about water examined in the light of economic, political, and environmental conditions. Regional differences in management patterns and decisions. The role of technology in creating new opportunities and new problems. Students are urged to have taken GEOG 468. Prerequisite: A 300-level Geography course.

For graduate courses in geography refer to §204.35.5 of this Calendar.

§194.13 Geology

The following table lists renumbered courses effective 1990-91:

Old New	Old New		
GEOL 202	GEOL 102	GEOL 430	GEOL 335
GEOL 203	GEOL 103	GEOL 440	GEOL 340
GEOL 209	GEOL 119	GEOL 445	GEOL 345
GEOL 300	GEOL 200	GEOL 446	GEOL 346
GEOL 301	GEOL 201	GEOL 447	GEOL 347
GEOL 302	GEOL 204	GEOL 452	GEOL 352
GEOL 303	GEOL 205	GEOL 453	GEOL 353
GEOL 304	GEOL 206	GEOL 460	GEOL 360
GEOL 305	GEOL 207	GEOL 507	GEOL 407
GEOL 307	GEOL 208	GEOL 508	GEOL 408
GEOL 308	GEOL 295	GEOL 523	GEOL 421
GEOL 309	GEOL 219	GEOL 524	GEOL 424
GEOL 310	GEOL 210	GEOL 525	GEOL 425
GEOL 320	GEOL 220	GEOL 526	GEOL 426
GEOL 321	GEOL 221	GEOL 527	GEOL 427
GEOL 330	GEOL 230	GEOL 528	GEOL 428
GEOL 331	GEOL 231	GEOL 530	GEOL 435
GEOL 362	GEOL 262	GEOL 532	GEOL 432
GEOL 382	GEOL 282	GEOL 533	GEOL 433
GEOL 390	GEOL 290	GEOL 546	GEOL 442
GEOL 391	GEOL 291	GEOL 547	GEOL 443
GEOL 401	GEOL 292	GEOL 553	GEOL 454
GEOL 409	GEOL 319	GEOL 563	GEOL 463
GEOL 414	GEOL 314	GEOL 570	GEOL 470
GEOL 423	GEOL 323	GEOL 588	GEOL 488
		GEOL 592	GEOL 492

Note:

1) Students enrolled in Honors and Specialization in geophysics, and Honors and Specialization in geology and zoology will be given preference in registering in geology courses which are required in these four-year programs.

2) Students are responsible for their own accommodation and meal expenses on all geology field trips.

3) Certain courses will normally be offered in alternate years when indicated by the symbol †. If sufficient demand exists, however, exceptions may be made and courses offered in off-cycle years. Students should contact the Department office.

4) A list of paleontology courses and course descriptions may be found under Paleontology, §194.23.

5) GEOL 201, 204, 205, 206, 207, 208 and 295 are intended for students following programs other then geology. Students in Honors or Specializaton programs in geology, geology and physics, or geology and zoology may not take them without consent of Department.

6) The successful completion of the curriculum does not necessarily qualify the student for membership in APEGGA.

GEOL 102 Physical Geology
★3 (first term, 3-0-3). Internal structure and composition of the earth; continents and oceans; minerals and rocks; groundwater and water supply; erosion, transportation and deposition of sediments; igneous activity and metamorphism; mountain building; plate tectonics. Not available to students with credit in GEOL 201 or 290.

GEOL 103 Earth and Life Through Time
★3 (second term, 3-0-3). Geologic and biological processes relevant for historical geology; structural geology and plate tectonics, relative and numerical dating, facies analysis and correlation, fossils, origin and evolution of life. Historical geology from the origin of the solar system to the Recent: planetary beginnings, generation and development of continents, mountains and sedimentary basins; main sedimentary and mineral deposits of economic value; main fossil groups, index fossils, mass extinctions and adaptive radiations. Credit may be obtained in only one of GEOL 103 or 204. Prerequisites: GEOL 102.

GEOL 119 Geology Field School I
★1 (second term, ten days). Ten day excursion at the end of the second term to demonstrate the geology of Alberta. Prerequisite: GEOL 102 and 103.

GEOL 200 Introductory Studies in Geology
★3 (0-0-3). Minerals, rocks, fossils and the interpretation of geological maps. GEOL 200, 201 and 204 together are considered equivalent to GEOL 102 and 103 for prerequisite purposes. Not available to students with credit in GEOL 102 and 103. Corequisite: GEOL 201 and 204.

GEOL 201 Earth Science I
★3 (first term, 3-0-0). Nature, origin and evolution of the universe and of planetary systems; the physical properties of the earth and of its environment; the materials and structures of the earth's interior and surface and the processes affecting these regions, such as continental drift, the formation of ocean basins and mountain building. Prerequisite: A 100-level science course. Not available to students who have taken GEOL 102, or 290.

GEOL 204 Earth Science II
★3 (second term, 3-0-0). Measurement of geologic time; history of life on earth and the geological evolution of North America; nature and origin of mineral deposits; geology of coal, oil and gas. Not available to students with credit in GEOL 103. Prerequisite: GEOL 102 or 201.

GEOL 205 Canadian Shield and Arctic
★3 (first term, 3-0-0). Regional geology of the Precambrian rocks; history of discovery of major districts; present development of mineral deposits and future possibilities. Prerequisite: GEOL 102 and 103 or GEOL 201 and 204.

GEOL 206 Western Canada Plains and Cordillera
★3 (second term, 3-0-0). Regional geology of interior plains of Western Canada; development of oil, gas and coal deposits; mountain-building and ore deposits from the plains to the Pacific Rim. Prerequisite: GEOL 102 and 103 or GEOL 201 and 204.

GEOL 207 Environment Earth
★3 (first term, 3-0-0). Early history of the earth; formation of the hydrosphere and atmosphere and their evolution to the present 'stable' state; atmosphere and hydrosphere as solar-powered heat engines; hydrologic cycle, water supply and groundwater; geological factors affecting the disposal of waste; quantitative evaluation of the effects on the environment of man's exploitation and use of mineral resources; future availability of fuel and of metallic minerals; permafrost, exploration and construction; earthquakes and man-made explosions; earth resources; observational satellites. Prerequisite: GEOL 102 and 103 or GEOL 201 and 204.

GEOL 208 Earth Sciences III: Geology of the Moon and Planets
★3 (first term, 3-0-0). Geological properties of the planets. Origin and evolution of the planets: results of space exploration. Planet Earth as now viewed in the context of the Solar System. Prerequisite: GEOL 103 or 204 or 292.

GEOL 210 Principles of Paleontology
★3 (first term, 3-0-3). Morphology, paleoecology, and evolution of the Porifera, Coelenterata, Brachiopoda, Mollusca, Echinodermata, and Trilobita. Prerequisite: GEOL 102 and 103 and consent of Department.

GEOL 219 Geology Field School II
★3 (second term, 12 days). The study of sedimentary rocks in the field; reading and introductory lectures, and twelve days of field exercises following second term examination period. Prerequisite: GEOL 220 and 262 and consent of Department.

GEOL 220 Principles of Sedimentation and Stratigraphy
★3 (second term, 3-0-3). Sedimentary processes, environments and facies; properties and classification of sedimentary rocks; stratigraphic nomenclature and the stratigraphic column; principles of stratigraphic paleontology. Prerequisite: GEOL 210 and consent of Department.

GEOL 221 Principles of Sedimentation and Stratigraphy
★3 (second term, 3-0-3). Sedimentary processes, environments and facies; properties and classification of sedimentary rocks; stratigraphic nomenclature and the stratigraphic column; principles of stratigraphic paleontology. Prerequisite: GEOL 102 or 290 or 292. Note: This course will not be available to students with credit in GEOL 220.

GEOL 230 Mineralogy I
★3 (first term, 3-0-3). Principles of crystallography, physical and chemical properties of minerals, determinative mineralogy. Prerequisite: GEOL 102, CHEM 100 or 104, MATH 115 and consent of Department.

GEOL 231 Mineralogy II
★3 (second term, 3-0-3). Optical techniques in determinative mineralogy with particular emphasis on transmitted-light microscopy and its application to common rock-forming minerals. Mineral associations, textures and elementary ideas on the origin of igneous, metamorphic and sedimentary rocks. Prerequisite: GEOL 230. Corequisite: PHYS 106 or 141/143 and consent of Department.

GEOL 262 Principles of Geologic Mapping
★3 (second term, 1-0-5). A laboratory course involving the construction and analysis of geologic maps and cross-sections, and hand-specimen petrology. Prerequisite: GEOL 230.

GEOL 282 Geomorphology: Glacial and Perglacial Geology
★3 (first term, 3-0-3). Study of landform morphology, internal composition and processes of formation and development. Emphasis is placed on analysis of glacial, fluvial, lacustrine, aeolian, sub-aerial mass movement, and periglacial landforms and processes. Other topics include glacio-isostasy and eustacy and Quaternary history of western and northen Canada. Laboratory exercises consist of analysis and report of Quaternary sediments in the Edmonton area, local field trips and interpretation of aerial photographs. Prerequisite: GEOL 102.

GEOL 290 Engineering Earth Sciences
★3 (first term, 3-0-3). Rock-forming minerals, igneous activity and igneous rocks, metamorphic and sedimentary rocks, economic minerals; rock weathering and soil formation, mass-wasting, groundwater, deformation of the earth's crust. Laboratories on identification of minerals and rocks and the interpretation of geological maps and aerial photography. Not available to students with credit in GEOL 102 or 201.

†GEOL 291 Engineering Geology
★3 (second term, 3-0-3). Introduction to geological topics important in engineering and regional planning; mass-wasting, hydrogeology, surficial geology, weathering processes and their effects on natural materials. Analysis of aerial photography and maps to determine constraints on land use imposed by geology. Prerequisite: GEOL 102 or 290.

GEOL 292 Basic Geology for Senior Students
★3 (first term, 3-0-3). The structure and composition of the earth, continents and oceans; minerals and rocks; time-scale, historical geology and an introduction to geotectonics. Prerequisite: A 100-level Science course. Not available to students with credit in GEOL 102/103, GEOL 201/202, or GEOL 290. Intended primarily for Mineral Engineering students or graduate students.

GEOL 295 Earth's Physical Resources
★3 (second term, 3-0-0). Resources and resource systems of planet Earth; energy resources and mineral deposits; constructional and other bulk materials; implications of earth resource systems in human affairs. Prerequisites: GEOL 102 and 103 or GEOL 201 and 204.

†GEOL 314 Paleontology
★3 (second term, 3-0-3). Morphology, paleoecology and evolution, with emphasis on both the theoretical aspects and practical techniques of paleontology. Concentration on invertebrate paleontology, but examples from vertebrate paleontology and paleobotany included. Prerequisite: GEOL 210.

GEOL 319 Geology Field School III
★3 (second term, 12 days). The study and mapping of deformed sedimentary, igneous and metamorphic rocks and of macroscopic and mesoscopic structures in the field; reading and introductory lectures, and twelve days of field exercises following second term examination period. Prerequisites: GEOL 345, 346, 347 and 360.

GEOL 323 Stratigraphy
★3 (second term, 3-0-3). Principles of stratigraphy and stratigraphic paleontology, historical geology of North America from the Cambrian to the Cenozoic with emphasis on Western Canada. Prerequisites: GEOL 210, 220 and 262.

GEOL 335 Determinative Mineralogy
★3 (second term, 3-0-3). Techniques of mineral investigation including X-ray diffraction and fluorescence, DTA, electron microprobe analysis, scanning electron microscopy;

mineral separation and preparation; application to clay minerals and other selected mineral groups. Prerequisite: GEOL 231.

GEOL 340 Hand Specimen Petrography
★3 (second term, 3-0-3). Study of igneous, sedimentary and metamorphic rocks in hand specimens. Not available to students with credit in GEOL 345 or 346 or 347. Prerequisite: GEOL 292.

GEOL 345 Igneous Petrology
★3 (first term, 3-0-3). A survey of igneous rocks from the ocean basins and the continents; their field settings, classification, petrography, mineralogy and chemistry; magmatic processes and petrogenesis; problem solving and laboratory work on major rock suites. Prerequisite: GEOL 231.

GEOL 346 Introductory Sedimentary Petrology
★3 (second term, 3-0-3). Processes of sedimentation; weathering, transportation, deposition, diagenesis; classification and description of sedimentary rocks. Prerequisites: GEOL 220, 345. Corequisite: GEOL 347.

GEOL 347 Metamorphic Petrology
★3 (second term, 3-0-3). Classification and genesis of metamorphic rocks; hand specimen and thin section examples from the Canadian Shield and Cordillera. Corequisite: GEOL 346.

GEOL 352 Geochemistry I
★3 (first term, 3-0-3). A survey of chemical processes occurring in geological settings with emphasis on the abundance relationships of the elements and isotopes in the earth, and the principles governing the migration and distribution of the elements. Inorganic and organic geochemistry. Prerequisite: GEOL 230. Corequisite: GEOL 345.

GEOL 353 Geochemistry II
★3 (second term, 3-0-3). Part A: Physico-chemical principles and thermodynamics applied to geological processes. Part B: The application of geochemistry in the search for mineral deposits. Prerequisite: GEOL 352.

GEOL 360 Structural Geology I
★3 (first term, 3-0-3). Fundamentals of stress and strain in rocks; geometric, kinematic, and dynamic analysis; nature, orientation, measurement, representation, and description of planar and linear penetrative and discrete structures, and of faults, joints and folds; stereographic and other projections and their applications; regional structure and the study of orogens. Prerequisite: GEOL 231, 262 and CMPUT 251.

GEOL 407 Research Project I
★3 (either term, or over both terms, 3-0-0). Prerequisite: A 300-level Geology course.

GEOL 408 Research Project II
★3 (second term, 3-0-0). GEOL 407 and 408 provide a means whereby students enrolled in the fourth year of an Honors or Specialization Program may undertake a research project supervised by a faculty member. Prerequisite: A 300-level Geology course.

GEOL 421 Subsurface Geologic Methods
★3 (first term, 3-0-3). Methods of acquiring geologic data from beneath the surface by remote means: drilling, sampling, coring, logging; significance of geophysical techniques; presentation of subsurface information. Prerequisites: GEOL 323, 347, and 360.

GEOL 424 Petroleum Geology I
★3 (first term, 3-0-3). Origin and distribution of petroleum. Geochemistry and maturation of organic matter; microbiological and thermal degradation of hydrocarbons, conventional and unconventional source and reservoir rocks; principles of primary and secondary migration; diagenesis of carbonate and clastic reservoir rocks, with reference to seals and traps. Prerequisites: GEOL 346, 352.

GEOL 425 Petroleum Geology II
★3 (second term, 3-0-2). Basin analysis, Trap types, tectonic, structural, stratigraphic, sedimentologic, geothermal and hydrogeological characteristics of petroliferous basins. Exploration and development of hydrocarbon plays using seismic, core and wire line logging, thin section petrography, correlation and mapping, sequence stratigraphy, palinspastic and paleogeographic reconstruction. Prerequisites: GEOL 323, 360, 421, 424, 442.

GEOL 426 Coal and Industrial Minerals
★3 (first term, 3-0-3). Composition and origin of coal; diagenesis and metamorphism; macrolithotypes and macerals; coal analysis, classification and uses; coal resources and reserves; occurrence, origin and use of non-metalliferous industrial rocks and minerals. Prerequisites: GEOL 347, 360.

GEOL 427 Petroleum Hydrogeology
★3 (second term, 3-0-3). Principles of hydrogeology, subsurface hydrodynamics and basinal fluid flow; evaluation and interpretation of subsurface hydrodynamic data of extended regions; hydraulics and hydrodynamics of petroleum entrapment; review of migration and accumulation theories; hydrogeologic indicators of petroleum accumulations; field examples. Prerequisites: GEOL 424; GEOL 488 is recommended.

GEOL 428 Precambrian Geology
★3 (first term, 3-0-0). Precambrian geologic record with special reference to the stratigraphy, structure, petrology, mineral deposits, geochronology and metamorphism of the Canadian Shield and Western Canadian Cordillera. Prerequisites: GEOL 323, 347.

GEOL 432 Metalliferous Mineral Deposits
★3 (first term, 3-0-3). An introduction to the geologic characteristics and distribution of the principal metalliferous mineral deposits. Prerequisite: GEOL 347, 360.

GEOL 433 Ore Petrology
★3 (second term, 3-0-0). Mineralogy and petrogenesis of metalliferous deposits; mechanism of hydrothermal transport and deposition; metamorphic and igneous processes of ore segregation and modification; application of isotope data to the study of ores. Prerequisite: GEOL 432.

GEOL 435 Rock-Forming Minerals
★3 (first term, 3-0-3). Structure, composition, optical and physical properties, phase relationships and paragenesis of some important rock-forming minerals and mineral groups. Prerequisite: GEOL 335 and a 300-level Geology course.

GEOL 442 Sedimentary Facies
★3 (first term, 3-0-3). Processes of clastic and chemical sedimentation, and diagenesis; sedimentary environments and facies; laboratory techniques in the study of sedimentary rocks. Prerequisite: GEOL 346, 347.

GEOL 443 Petrogenesis of Igneous and Metamorphic Rocks
★3 (second term, 3-0-3). Origin and formation of igneous and metamorphic rocks in the light of field, mineralogical, chemical and experimental evidence. Prerequisite: GEOL 347 and 352.

GEOL 454 Inorganic Geochemistry
★3 (second term, 3-0-3). Applications of geochemistry to rock- and ore-forming processes. Significance and use of minor elements and isotopes as geological tracers. Prerequisite: GEOL 352.

†GEOL 463 Structural Geology II
★3 (second term, 3-0-3). Regional structural geology with special emphasis on the Cordilleran, Innuitian, Appalachian, Caledonian, and Alpine orogenic belts, analysis of strain; computer-based procedures for determining the geometry of faults and folds. Prerequisite: GEOL 360.

GEOL 470 Geotectonics
★3 (first term, 3-0-0). Fundamentals of plate tectonic theory and the evolution of the Earth. Application of plate tectonics to the theory of sedimentary basins and orogenic belts. Tectonics of western North America. Prerequisite: GEOL 347, 360.

GEOL 488 Introduction to Hydrogeology
★3 (first term, 3-0-3). Occurrence, distribution, movement and chemistry of groundwater as a function of the geological environment; groundwater as a geologic agent; methods of collection, organization and use of hydrogeologic data; case histories. Prerequisite: MATH 115 and a 300-level course in Geology.

†GEOL 492 Photogeology and Remote Sensing
★3 (second term, 3-0-3). Application of aerial photographs to geological mapping and terrain analysis; interpretation of geological structure and landforms; remote sensing in geology; sensor principles and capabilities; analysis of imagery. Prerequisite: A 300-level Geology course and consent of Department.

For graduate courses in geology refer to §204.36.5 of this Calendar.

194.14 Geophysics

Department of Physics

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
GEOPH 321	GEOPH 221	GEOPH 521	GEOPH 421
GEOPH 327	GEOPH 227	GEOPH 525	GEOPH 424
GEOPH 329	GEOPH 229	GEOPH 527	GEOPH 426
GEOPH 425	GEOPH 325	GEOPH 528	GEOPH 428
GEOPH 427	GEOPH 326	GEOPH 529	GEOPH 429

The following courses in geophysics are offered by the Department of Physics. See §193.18 for details of the programs offered.

GEOPH 221 Physics of the Earth
★3 (second term, 3-0-0). The solar system, its origin and the abundance of elements. Meteorites. Elements of seismology, properties of the earth's interior. Gravity and the shape of the earth. Heat flow and thermal history of the earth. Geomagnetism, aeronomy, magnetosphere and interplanetary space. Prerequisite: PHYS 143. Corequisite: PHYS 285.

GEOPH 227 Seismic Exploration Methods
★3 (first term, 3-0-3). Elastic properties of rocks. Geometric rays. Application of seismic refraction and reflection methods. Interpretation of seismic sections. Sonic logging. Prerequisite: MATH 115 and PHYS 106. Note: Credit is not available to students in Honors or Specialization in Physics or Geophysics.

GEOPH 229 Geophysical Prospecting
★3 (second term, 3-0-3). Application theory and interpretation of gravitational, magnetic, electromagnetic and radiomagnetic prospecting methods. Well-logging technique. Prerequisite: MATH 115 and PHYS 106. Note: Credit is not available to students in Honors or Specialization in Physics or Geophysics.

GEOPH 325 Gravity, Magnetic and Electrical Prospecting Techniques
★3 (first term, 3-0-0). Elementary potential theory as required for gravity, magnetic and electrical studies of the earth's crust. Gravimeters and magnetometers; magnetic and electrical properties of rocks; well logging methods; induced polarization. Prerequisite: PHYS 285.

GEOPH 326 Ray Seismology
★3 (second term, 3-0-0). Use of seismic refraction and reflection methods for exploration of petroleum and ground water. Elasticity theory, seismic instrumentation, velocity surveys, near surface corrections. Prerequisite: PHYS 285.

GEOPH 421 Seismology and Physical Structure of the Earth
★3 (second term, 3-0-0). Seismology; Infinitesimal strain theory; elastic stress and moduli of elasticity; plane waves in isotropic layered media; imperfectly elastic media; earthquake mechanisms. Physical structure of the earth; seismometers. Prerequisite: MATH 300 or 437.

GEOPH 424 Electromagnetic and Potential Methods of Exploration
★3 (second term, 3-0-0). Theory and application of Maxwell's equations. Potential theory as applied to gravity, magnetic and electrical studies. Interpretation of field data. Direct and indirect methods of inversion to obtain model structures. Prerequisite: GEOPH 325 or consent of Department, and MATH 300 or 437. Corequisite: GEOPH 428.

GEOPH 426 Time Series in Applied Seismology
★3 (first term, 3-0-0). Application of time series analyses to seismic data processing. Fast Fourier transforms; Z transformation, spectral analyses, band pass and velocity filtering, deconvolution, auto and cross correlation; analog to digital conversion, wave propagation in layered media. Prerequisite: GEOPH 326 or equivalent. Corequisite: GEOPH 428.

GEOPH 428 Application of Methods of Exploration Geophysics
★6 (0-0-6). A ten day field camp held before the beginning of the fall term provides data for interpretation during the fall and winter terms. Problems associated with the analysis of real data are discussed in a weekly seminar. Prerequisite: MATH 300. Note: Restricted to geophysics Honors and Specialization students.

GEOPH 429 Upper Atmosphere and Space Physics
★3 (second term, 3-0-0). Generation of the solar wind; the interplanetary plasma and field environment; the solar-terrestrial interaction; magnetospheric substorms; the aurora borealis; magnetosphere-ionosphere interactions; effects of magnetospheric storms on man-made systems; use of natural electromagnetic fields for geophysical exploration. Prerequisite or corequisite: PHYS 382.

For graduate courses in geophysics refer to §204.37.1 of this Calendar.

194.15 Interdisciplinary Studies

Any Interdisciplinary Studies course in §194.15 will be counted as a science course in a program of study in the Faculty of Science.

The following table lists renumbered courses effective 1990-91:

Old	New
INT D 505	INT D 407
INT D 565	INT D 464

INT D 407 Intermediary Metabolism
★3 (first term, 3-0-0). A detailed description of enzymatic reactions in biosynthetic pathways of carbohydrate, amino acid, vitamin and coenzyme metabolism, emphasizing interrelationships among microbial and animal cells. Offered in alternate years. Prerequisite: BIOCH 301 and MICRB 311. [Microbiology]

NT D 421 Peatlands
★3 (first term, 3-0-3). Climatic, geologic and hydrologic factors of peatland development; ecosystem dynamics of peat formation including flora and fauna, biogeochemical cycles, and energy fluxes; stratigraphy and evolution; classification; utilization in forestry, agriculture, horticulture and as fuel. Two one-day field trips on Saturdays. Offered in alternate years. Prerequisite: A 100-level or higher Ecology course and a 300-level Soils course. (Offered jointly by the Departments of Botany and Soil Science.) [Soil Science]

NT D 455 Molecular Plant Development
★3 (second term, 3-0-0). Recent advances in plant molecular biology will be introduced through a study of plant development at the molecular level. The course will examine how developmental processes can be used as model systems to study gene expression in higher plants. Both developmental regulation and stress induced alteration of gene expression will be covered using specific examples. Prerequisite: BOT 382 or PL SC 301. GENET 270 recommended. Offered in alternate years (Offered jointly by the Departments of Botany and Plant Science.) [Botany].

NT D 464 Northern Studies
★3 (second term, 3-0-0). An examination of current environmental research in the Canadian North. Seminars are presented by government and industry professionals engaged in various facets of northern research. Prerequisite: GEOG 466 or ZOOL 466. Corequisite: GEOG 466 or ZOOL 366. (Offered by the Boreal Institute for Northern Studies and the Department of Geography.) [Geography]

For graduate courses in interdisciplinary studies refer to §204.42 of this calendar.

94.16 Laboratory Animal Management

Department of Microbiology

B AN 301 Experimental Animal Models
★3 (second term, 3-0-3). This course will be directed to senior level (3rd and 4th year) undergraduate students with a background in vertebrate biology and an interest in animal based research. The course will assist the students in selecting appropriate experimental animal models for specific types of research. The advantages and limitations of animal models will be discussed, as well as the use of alternative and/or complementary non-animal models. The ethics of animal use will be emphasized throughout the course. Students will also be informed of the regulations and legislation governing the use of animals in Canada. Prerequisite: ZOOL 225 or 226.

94.17 Linguistics

See Faculty of Arts §44.27 of the Calendar for linguistics courses offered by the Faculty of Arts.

See §204.45 regarding graduate courses in linguistics.

94.18 Marine Science

Staff, Marine Station at Bamfield, BC

te: Courses are offered during Intersession (and sometimes during the first term of the Winter Session) at the Bamfield Marine Station — check with the Department of Zoology. Students wishing to take Marine Science courses must register with *both* the Special Sessions office (or the Faculty of Science for the Fall term) and the Bamfield Marine Station. Details are available from the Department of Zoology. Prerequisite for all of the following courses is: Consent of Department of Zoology.

A SC 400 Directed Studies
(0-0-6). A course of directed studies under the supervision of a visiting professor. The study will involve research project approved by the supervisor in the field of interest of the student, and will be designed to the maximum advantage of the laboratory and/or field opportunities offered by the Bamfield Marine Station.

SC 401 Special Topics in Marine Biology
(0-0-6). Offered, as opportunities arise, by distinguished scientists who are working at the Bamfield Marine Station. It is expected that the course will generally be of a specialized nature and be at a level appropriate to graduate or senior undergraduate students.

MA SC 402 Special Topics in Marine Biology
★3 (either term, 0-0-6). Offered, as opportunities arise, by distinguished scientists who are working at the Bamfield Marine Station and are prepared to offer a course extending over a three-week period. Course will be of a specialized nature.

MA SC 410 Marine Invertebrate Zoology
★6 (0-0-6). A survey of the marine phyla, with emphasis on the benthic fauna in the vicinity of the Bamfield Marine Station. The course includes lectures, laboratory periods, field collection, identification, and observation. Emphasis is placed on the study of living specimens in the laboratory and in the field.

MA SC 411 Comparative Invertebrate Embryology
★6 (0-0-6). A comprehensive study of the development of marine invertebrates available at the Bamfield Marine Station, including all major phyla and most of the minor phyla. A total of 25 to 30 lectures, covering gametogenesis, fertilization, larval development and metamorphosis of different groups will be given. Laboratory work will include methods and techniques of obtaining and handling of gametes, preparation and maintenance of larval cultures, and observations of development up to metamorphosis if possible. Some selected and clearly defined experiments will be performed. Efforts will be made also to study various pelagic larvae collected from the plankton.

MA SC 412 Biology of Fishes
★6 (0-0-6). Classification, physiology, ecology, behavior and zoogeography of fishes with particular emphasis on those in the marine environment of the British Columbia coast. Course will involve some field projects.

MA SC 413 Biology of Molluscs
★6 (0-0-6). An advanced course of selected topics emphasizing functional morphology, ecology and evolution of these diverse phylum. Field trips will be undertaken to survey the representative molluscs of the Bamfield region. Students will be expected to complete an independent field or laboratory study of selected molluscs.

MA SC 420 Marine Phycology
★6 (0-0-6). A survey of the marine algae, with emphasis on the benthic forms in the vicinity of the Bamfield Marine Station. The course includes lectures, laboratory periods, field collection, identification, and observation. Emphasis is placed on the study of living specimens in the laboratory and in the field.

MA SC 430 Marine Ecology
★6 (0-0-6). An analytical approach to biotic associations in the marine environment. Opportunities will be provided for study of the intertidal realm in exposed and protected areas and of beaches and estuaries in the vicinity of the Bamfield Marine Station; plankton studies and investigations of the subtidal and benthic environments by diving and dredging are envisaged.

MA SC 435 Introduction to Biological Oceanography
★6 (0-0-6). An introduction to the biology of the oceans, with supporting coverage of relevant physics and chemistry. Emphasis on plankton biology, community structure and life histories, and influencing environmental factors. Collections will be made from sheltered inlets, through Barkley Sound to offshore waters. Course will involve both field and laboratory studies of plankton organisms.

MA SC 440 Biology of Marine Birds
★6 (0-0-6). A study of the inter-relationship of birds and the marine environment. Lectures will emphasize the systematics and ecological relationships, behavior, life histories, movements and conservations of marine birds. Census techniques and methods of studying marine birds in the field will be treated as we observe seabirds and marine associated birds in the Barkley Sound region. Seabird identification, classification, morphology, plumages and moult will be examined in the laboratory.

MA SC 445 Biology of Marine Mammals
★6 (0-0-6). A survey course covering systematics and distribution of marine mammals, their sensory capabilities and physiology, with special emphasis on the Cetacea. The course includes lectures, laboratory periods and the course will involve an independent field study.

MA SC 446 Comparative Ethology
★6 (0-0-6). A comparative study of marine animals (vertebrate and invertabrate) emphasizing behavioral description, underlying physiological mechanisms, the biological significance of behavior and behavioral evolution. The course will include independent laboratory and field studies.

MA SC 450 Principles of Aquaculture
★3 (0-0-6). An interdisciplinary introduction to the principles underlying the commercial cultivation of aquatic plants and animals emphasizing marine systems. The course will include working site-visits to a range of commercial farms and R & D facilities.

MA SC 454 Special Topics in Aquaculture
★3 (0-0-6). An examination of the culture techniques for selected groups of aquatic plants, animals, or micro organisms. Participants will be expected to complete a project which examines some aspects of applied science relevant to commercial culture.

MA SC 460 Special Topics in Aquacultural Applied Science
★3 (0-0-6). An examination of the principles underlying the application of selected areas of scientific information to commercial aquaculture. Participants will be expected to complete a written project.

MA SC 470 Directed Research in Aquaculture
★3 (0-0-6). Design and execution of a research project in the field of aquaculture under the supervision of a scientist working in association with the Bamfield Station. A written report is a requirement.

194.19 Mathematical Physics

Departments of Mathematics and Physics

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
MA PH 443	MA PH 343	MA PH 553	MA PH 453
MA PH 444	MA PH 344	MA PH 567	MA PH 467
MA PH 551	MA PH 451	MA PH 568	MA PH 468

Note: Permission to enroll in any mathematical physics course will not normally be granted unless the stated prerequisites have been met. However, students may enroll in a mathematical physics course if their department and the course instructor agree that their background and academic standing warrant the waiver of the stated prerequisites.

MA PH 343 Classical Mechanics I
★3 (first term, 3-0-0). Review of fundamental principles; Lagrange's equations derived from Newton's Laws and D'Alembert's Principle; Variational Principles; Hamilton's Equations; Canonical Transformations; Small Oscillations. Prerequisite: PHYS 244 or MATH 376; MATH 215 or 317.

MA PH 344 Classical Mechanics II
★3 (second term, 3-0-0). Non-Conservative and Non-Holonomic Systems; Motion of a Rigid Body in Non-Inertial Systems; Hamilton-Jacobi equation; principles of fluid mechanics. Prerequisite: MA PH 343.

MA PH 451 Mathematical Methods of Physics I
★3 (first term, 3-0-0). Application to problems in physics of: method of steepest descent; Fourier and Laplace transforms; boundary-value problems, integral equations and Green's functions. Prerequisite: PHYS 372 and 382.

MA PH 453 Mathematical Methods of Physics II
★3 (second term, 3-0-0). Application to problems in physics of: contour integral solutions of linear differential equations; Legendre, Bessel and hypergeometric functions with complex arguments; applications to the differential and integral equations of mathematical physics; perturbation theory; calculus of variations; conformal mapping; elements of group theory. Prerequisite: MA PH 451.

MA PH 467 Mechanics of Deformable Media
★3 (second term, 3-0-0). Stress and strain in continuous media; elasticity; mechanics of fluid flow in two dimensions using complex variables; three dimensional fluid flow using Eulerian and Lagrangian reference frames; thermodynamics and mechanics of compressible and viscous flows; onset of turbulence, convection and instability. Examples from geophysics, oceonography and atmospheric physics. Prerequisite: PHYS 211, MATH 334, MA PH 343, MATH 411, or 311.

MA PH 468 Introduction to Relativity
★3 (second term, 3-0-0). Special Relativity, principle of equivalence, Einstein field equations, stationary and static fields, Schwarzschild metric, experimental tests, black holes, linearized equations, gravitational collapse, cosmology. Prerequisite: MATH 446 or equivalent.

194.20 Mathematics

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
MATH 202	MATH 113	MATH 375	MATH 241
MATH 203	MATH 114	MATH 376	MATH 242
MATH 204	MATH 115	MATH 381	MATH 227
MATH 207	MATH 117	MATH 400	MATH 497
MATH 208	MATH 118	MATH 405	MATH 411
MATH 212	MATH 100	MATH 406	MATH 412
MATH 213	MATH 101	MATH 408	MATH 311
MATH 221	MATH 120	MATH 409	MATH 347
MATH 222	MATH 121	MATH 410	MATH 447
MATH 251	MATH 153	MATH 415	MATH 323

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MATH 282
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MATH 215
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MATH 354
MATH 314
MATH 414
MATH 373
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MATH 446
MATH 340
MATH 343
MATH 372
MATH 472

MATH 113 Elementary Calculus I
★3 (either term, 3-0-1). Review of analytic geometry. Differentiation and integration of simple functions. Applications. Prerequisite: Mathematics 30 or equivalent. Students who have taken Mathematics 31 are advised to take MATH 114. This course may not be taken for credit if credit has already been obtained in MATH 100, 114 or 117.

MATH 114 Elementary Calculus I
★3 (either term, 3-0-0). The course description is the same as for MATH 113. Prerequisite: Mathematics 30, Mathematics 31 or equivalent. This course may not be taken for credit if credit has been obtained in MATH 100, 113 or 117.

MATH 115 Elementary Calculus II
★3 (either term, 3-0-0). Differentiation and integration of trigonometric, exponential and logarithmic functions. Indeterminate forms and improper integrals. Techniques of integration. Application. Prerequisite: MATH 113 or 114, or equivalent. Note: This course may not be taken for credit if credit has already been obtained in either of MATH 101 or 118.

MATH 117 Honors Calculus I
★3 (first term, 4-0-0). Functions, continuity and the derivative. Applications of the derivative. Integration and the Fundamental Theorem. Prerequisite: Mathematics 30, Mathematics 31 or their equivalents. Note: This course is designed for students with at least a 75 per cent grade in Mathematics 30. Other students may be admitted with the consent of Department. This course may not be taken for credit if credit has already been obtained in any of MATH 100, 113, 114, or 245.

MATH 118 Honors Calculus II
★3 (second term, 4-0-0). Techniques and applications of integration. Derivatives and integrals of the exponential, and trigonometric functions. Extended limits and l'Hospital's rule. Introduction to infinite series. Introduction to partial derivatives. Prerequisite: MATH 117 or its equivalent. Students with MATH 113 or 114 will be admitted with the consent of Department. Note: This course may not be taken for credit if credit has already been obtained in MATH 101 or 115.

MATH 120 Linear Algebra I
★3 (either term, 3-0-0). Vector and matrix algebra, determinants, linear systems of equations, vector spaces, eigenvalues and eigenvectors and applications. Prerequisite: Mathematics 30 or equivalent. Note: This course may not be taken for credit if credit has already been obtained in MATH 127, 200 or 243.

MATH 121 Linear Algebra II
★3 (either term, 3-0-0). Bases, linear transformations, change of bases, eigenvalues and eigenspaces, diagonalization, inner product, Gram Schmidt orthogonalizaton process, orthogonal diagonalization, quadratic form, applications. Prerequisite: MATH 120 or equivalent; Mathematics 31 or MATH 113 is also recommended. Note: This course may not be taken for credit if credit has already been obtained in MATH 227.

MATH 127 Honors Algebra I
★3 (first term, 3-0-0). Vectors, planes and lines, linear transformations and matrices; systems of linear equations, vector spaces and sub-spaces, dimensions; determinants. Note: This course is recommended for students with at least a 75per cent grade in Mathematics 30. Other students may be admitted with the consent of Department. Note: This course may not be taken for credit if credit has already been obtained in any of MATH 120, 200 or 243. Prerequisite: Mathematics 30 and 31 or equivalent.

MATH 128 Honors Algebra II
★3 (second term, 3-0-0). Relations, equivalence relations; groups, Lagrange's theorem; rings, fields, polynomials, finite fields. elementary error-detecting and error-correcting codes. Note: This course may not be taken for credit if credit has already been obtained in MATH 223. Prerequisite: MATH 127.

MATH 153 Mathematics of Finance I
★3 (either term, 3-0-0). Simple and compound interest, simple and general annuities certain; variable annuities and perpetuities, amortization schedules, sinking funds, applications. Prerequisite: Mathematics 30. Note: This course may not be taken for credit if credit has already been obtained in MATH 253.

MATH 154 Mathematics of Finance II
★3 (either term, 3-0-0). Capitalized cost, depletion, bonds, life annuities and life insurance, net premiums and reserves, applications. Prerequisite: MATH 153. Note: This course may not be taken for credit if credit has already been obtained in MATH 253.

MATH 160 Higher Arithmetic
★3 (either term, 3-0-0). Elementary Number Theory, Numeration Systems, Number Systems and Elementary Probability Theory. Prerequisite: MATH 30 or consent of Department. Note: This course is restricted to Elementary Education students.

MATH 214 Intermediate Calculus I
★3 (either term, 3-0-0). Infinite Series. Plane curves and polar coordinates. Vectors and three dimensional analytic geometry. Partial derivatives. This course may not be taken for credit if credit has already been obtained in MATH 209 or MATH 217. Prerequisite: MATH 115, or equivalent.

MATH 215 Intermediate Calculus II
★3 (either term, 3-0-0). First order and second order linear differential equations with constant coefficients. Curves, tangent vectors, arc length, integration in two and three dimensions, polar, cylindrical and spherical coordinates, line and surface integrals. Green's, divergence and Stoke's theorems. Note: This course may not be taken for credit if credit has already been obtained in MATH 209 or 217. Prerequisite: MATH 214.

MATH 217 Honors Advanced Calculus I
★3 (first term, 4-0-0). Axiomatic development of the real number system. Topology of R^n. Sequences, limits and continuity. Multiple integration. Differential calculus; the chain rule. Note: This course is required for second year Honor students in Mathematics and Physics. Other students admitted only with the consent of Department. This course may not be taken for credit if credit has already been obtained in either of MATH 209, 214. Prerequisite: MATH 118. Corequisite: MATH 127.

MATH 220 Linear Algebra III
★3 (either term, 3-0-0). Diagonalization and triangulization of matrices, Jordan canonical form, application to differential equations, spectral theorem, quadratic forms, orthogonal operators. Note: This course may not be taken for credit if credit has already been obtained in MATH 382. Prerequisite: MATH 121, or equivalent. A one term calculus prerequisite is recommended.

MATH 223 Introduction to Abstract Algebra
★3 (either term, 3-0-0). Properties of the integers, permutations, groups, Lagrange's theorem, factor groups, polynomials, rings, fields. Note: This course may not be taken for credit if credit has already been obtained in MATH 128. Prerequisite: Mathematics 30 and a previous University level Mathematics course.

MATH 227 Honors Linear Algebra I
★3 (first term, 3-0-0). General vector spaces and linear transformations, similarity, eigenvalues, characteristic and minimal polynomials, diagonalization, Euclidean linear product and Gram-Schmidt orthogonalization, orthogonal and unitary operators, orthogonal diagonalization, normal operators, spectral theory. Note: This course is intended for Honors programs. Other students admitted with the consent of Department. Prerequisite: MATH 127.

MATH 241 Geometry I
★3 (first term, 3-0-0). Sensed magnitudes. Cross rates. Transformation theory. Prerequisite: Any 100-level Mathematics course.

MATH 242 Geometry II
★3 (second term, 3-0-0). Transformation theory continued. Euclidean construction. Non-Euclidean geometry. Introductory projective geometry. Prerequisite: MATH 241.

MATH 253 Theory of Interest
★3 (first term, 3-0-0). Accumulation and amount functions. Effective, simple, compound rates. Force of interest. Discount. Annuities certain, simple and general. Perpetuities. Amortization schedules and sinking funds. Bonds and other securities. Applications — valuation of securities, installment loans, depreciation, depletion, capitalized cost. Prerequisite: MATH 115 or equivalent.

MATH 254 Annuities and Life Insurance I
★3 (second term, 3-0-0). Elements of probability and application to life contingencies. Force of mortality. Construction of the mortality table. Types of life annuities and life insurance. Commutation functions. Net premiums. Prerequisite: MATH 115, 253 and one Statistics course such as STAT 141 or 155 or 265 or MGTSC 301.

MATH 260 Topics in Mathematics
★3 (second term, 3-0-0). Problem solving in different areas of mathematics. Note: This course is intended for Elementary Education students and is not open to Science students. Prerequisite: MATH 160.

MATH 262 The Nature of Mathematics I
★3 (first term, 3-0-0). Topics from the history, methodology, achievements, and goals of mathematics with illustration from elementary geometry, topology, number theory, algebra, analysis, statistics, probability, and life sciences. Note: This course may not be taken for credit by science students (and is not an option in the Mathematics pattern). Prerequisite: Any 100-level Mathematics course.

MATH 263 The Nature of Mathematics II
★3 (second term, 3-0-0). A continuation of the topics of MATH 262. Prerequisite: MATH 262.

MATH 270 Introductory Mathematical Modelling I
★3 (first term, 3-0-0). This course is intended to show how mathematics can be used to analyze problems arising in various disciplines. Examples may be taken from such areas as the Natural, Social, and Life Sciences, Economics, Engineering, and Management Science. Their choice will be at the option of the instructor in consultation with the students. Only a modest mathematical background is required. The Department of Mathematics can supply details about the content of the course for the coming academic year. Note: Honors mathematics students may be expected to read and report on subject matter additional to that discussed in lectures. Prerequisite: MATH 115 or equivalent. Prerequisite or corequisite: MATH 120 or equivalent.

MATH 271 Introductory Mathematical Modelling II
★3 (second term, 3-0-0). This course is a continuation of MATH 270. Problems studied will be of a more advanced nature than those considered in part I. Prerequisite: MATH 270. Prerequisite or corequisite: MATH 215 or equivalent.

MATH 272 Elementary Mechanics
★6 (3-0-0). Newton's Laws. Plane statics. Systems of forces. Centre of mass. Friction. Principle of virtual work. Thin beams. Plane kinematics and dynamics of a particle. Projectile motion. Circular motion and simple harmonic motion. The conservation laws. Stability of equilibrium. Plane motion of a rigid body. Impulsive motion. Prerequisite: MATH 115 or equivalent. Corequisite: MATH 214, 215 or equivalent.

MATH 280 Numerical Methods I
★3 (second term, 3-0-1). Calculus of finite differences. Iterations. Methods of solving non-linear equations. Approximation of functions by Taylor series. Newton's Formulas, Lagrange and Hermite Interpolation. Splines. Elementary methods for numerical evaluations of integrals and direct methods for solving linear systems of equations. Prerequisite: MATH 214 or equivalent, MATH 120 or 243 or equivalent. Note: Credit cannot be obtained for both MATH 280 and any of CMPUT 319, 340 or 358.

MATH 311 Theory of Functions of a Complex Variable
★3 (either term, 3-0-0). Complex numbers. Complex series. Functions of a complex variable. Cauchy's theorem and contour integration. Conformal mappings. Schwartz-Christoffel transformation. Inverse Laplace transforms. Note: This course is intended for Engineering students. Prerequisite or corequisite: MATH 209 or 215.

MATH 314 Analysis I
★3 (first term, 3-0-0). Construction of real numbers. Heine-Borel and related theorems, uniform continuity, series of functions, uniform convergence, Riemann integral, integration of series; metric, topological, Banach and Hilbert spaces, bounded linear operators. Prerequisite: MATH 209 or MATH 215 or equivalent.

MATH 317 Honors Advanced Calculus II
★3 (second term, 4-0-0). Differential calculus, Taylor's formula, maxima and minima. Transformations of multiple integrals. Line integrals theorems of Green, Gauss and Stokes. Sequences and Series. Uniform convergence. Improper integrals. This course may not be taken for credit if credit has already been obtained in MATH 215. Prerequisite: MATH 217.

MATH 323 Applied Algebra I
★3 (first term, 3-0-0). Boolean Algebra, switching circuits, graph theory, matrix representations; applications to economics, communication networks and social science. Prerequisite: Any 200-level Mathematics course and a single-term course in linear algebra.

MATH 324 Elementary Number Theory
★3 (first term, 3-0-0). Divisibility, prime numbers, congruences, quadratic residues, quadratic reciprocity, arithmetic functions and diophantine equations; sums of squares. Prerequisite: MATH 120, 223 (or 127, 128 and a 200-level Mathematics course).

ATH 334 Introduction to Differential Equations
3 (first term, 3-0-0). First and second order equations. aplace transforms. Power series solutions. Introduction special functions. Sturm-Liouville type equations. alculus of variation. Note: This course may not be ken for credit if credit has already been obtained in ny of MATH 201, 205, 336 or 401. Prerequisite: MATH 5 or 317 and MATH 120 or 127.

ATH 336 Honors Differential Equations
3 (second term, 3-0-0). First order equations, second der equations. Systems of first order equations with onstant coefficients, matrix differential equations, fun- amental solutions, stability. Series solutions with a ief introduction to separation of variables, application boundary value problems of mathematical physics. ementary special functions. Elementary transform chniques. Prerequisite: MATH 118, MATH 217 or ATH 214, MATH 227 or MATH 121. Note: This course annot be taken for credit if credit has already been otained in any of MATH 201, 205, 334 or 401.

ATH 340 Topics in Geometry
3 (first term, 3-0-0). A selection from constructability eries, dissection theory, projective geometry, non-Euclidian eometry, finite geometrics, homogeneous coordinates, undations of geometry, topology of two-manifolds. rerequisite: MATH 241 or equivalent.

ATH 343 Cartesian Tensors and Applications
3 (first term, 3-0-0). Euclidean vector spaces. Linear ansformations and matrices. Algebra of cartesian ten- rs. Vector and tensor calculus. Determinants. Struc- re of second-order tensors. Isotropic tensors. Physical pplications. Prerequisite or corequisite: MATH 402 or quivalent.

ATH 347 Set Theory
3 (first term, 3-0-0). Axioms for set theory, transfinite duction, cardinal and ordinal numbers, applications. rimarily intended for third and fourth year students with good background in mathematics. Prerequisite: Any 00-level Mathematics course.

ATH 348 Geometry
5 (3-0-0). Euclidean geometry, conformal plane, real ojective plane, elliptic plane, Poincare's model of perbolic plane, complex projective plane and alge- aic curves. Corequisite: MATH 227.

ATH 354 Annuities and Life Insurance II
3 (first term, 3-0-0). Net and gross premiums. Re- rves, net level and modified. Options, surrender values. stribution of surplus. Group insurance. Pension plans. erequisite: MATH 254.

ATH 372 Intermediate Mathematical Modelling I
3 (first term, 3-0-0). This course is designed to develop e students' problem solving abilities along heuristic es and to illustrate the processes of Applied Math- natics. Students will be encouraged to recognize and rmulate problems in mathematical terms, solve the sulting mathematical problems, and interpret the solution real world terms. Typical problems considered include pics from population dynamics, mathematical ecology, athematical economics, nonlinear programming, opti- zation problems, diffusion models. Prerequisite: MATH 0 and 215 or equivalent.

ATH 373 Mathematical Programming and ptimization
3 (either term, 3-0-0). Maximizing and minimizing nctions of several variables under constraints. Linear ogramming. The simplex method, and variants. Com- tational techniques. Nonlinear programming and ap- cations. Prerequisite or corequisite: MATH 127 or 0/121; MATH 215 or 217.

ATH 376 Mechanics
3 (3-0-0). Foundations. Statics and the principle of tual work. Kinematics. Plane motion of a particle and rigid body. Conservation laws. Harmonic oscillator. otion in a central field. Impulsive motion. Note: This urse is primarily intended for Honors students in athematics. Other students admitted only with the nsent of Department. Prerequisite: PHYS 141 and 3. Prerequisite or corequisite: MATH 317.

ATH 380 Numerical Methods II
3 (first term, 3-0-1). Orthogonal polynomials and least uares approximations of functions. Iterative techniques solving linear systems and calculation of eigenvalues d eigenvectors. Solution of non-linear systems, New- n's Methods and Steepest Descent Techniques, Nu- rical solution of initial value problems, Runge Kutta thods. Numerical solution of boundary value problems ordinary differential equations and partial differential uations. Prerequisite: MATH 280. MATH 334 and an roductory course in Computing Science recommended.

ATH 411 Honors Complex Variable I
3 (first term, 3-0-0). Complex number system. Analytic nctions. Single- and multi-valued functions, Cauchy's orem and formula. Applications including the maxi- m modulus principle, Taylor's theorem and Laurent pansion. Harmonic functions. Dirichlet problem for the disk. Series of analytic functions. Calculus of residues. Idea of Analytic Continuation. Note: This course is primarily for Honors students in Mathematics or Physics. Offered in alternate years. It may be offered in intervening years if demand is sufficient. Prerequisite: MATH 314 or 317.

MATH 412 Honors Complex Variable II
★3 (second term, 3-0-0). Conformal mapping. The Schwarz-Christoffel transformation and Dirichlet problem in polygonal domains. Analytic continuation. Mapping properties of analytic functions. Rouche's Theorem. Entire functions. The gamma function. Additional topics to be chosen from the following: Families of analytic functions, asymptotics and special functions. The zeta function and the prime number theorem. Picard's Theorem. Nevanlinna Theory, Hp spaces. Laplace and Mellin transforms. It may be offered in intervening years if demand is sufficient. Prerequisite: MATH 411.

MATH 414 Analysis II
★3 (second term, 3-0-0). Measurable sets, Lebesgue integrals, linear spaces, and linear operators. Prerequisite: MATH 314.

MATH 417 Honors Real Variables I
★3 (first term, 3-0-0). Elements of set theory, cardinality, brief construction of real numbers. Lebesgue measure and Lebesgue integral on the line. Differentiability, Riemann-Stieltjes integral and functions of bounded variation. Prerequisite: MATH 317 or equivalent.

MATH 418 Honors Real Variables II
★3 (second term, 3-0-0). Differentiation and integration. Elementary metric space theory. Banach space. Hilbert space. Baire Category. L^p spaces. Trigonometric series. Prerequisite: MATH 417.

MATH 421 Introduction to Combinatorics
★3 (second term, 3-0-0). An introduction to the methods and applications of discrete mathematics with topics to include: Enumeration; permutations and combinations, recurrence relations, generating series, the inclusion-exclusion principle. Graph theory; connectivity, matching, chromatic number, planar graphs, paths and cycles. Combinatorial designs; finite geometries, block designs. Applications. Prerequisite: MATH 128 (or 223) and a 300-level Mathematics course.

MATH 423 Applied Algebra II
★3 (second term, 3-0-0). Elements of group theory, cosets, Lagrange's theorem, binary group codes, polynomials, finite field theory, error correcting codes. Prerequisite: MATH 223 or 128, a linear algebra course and a 300-level Mathematics course.

MATH 425 Elementary Field Theory
★3 (second term, 3-0-0). Fields, Field extensions, ruler and compass constructions, the Galois group, topics from Galois theory, and algebraic number theory. Prerequisite: MATH 128 (or 223) and a 300-level Mathematics course.

MATH 426 Honors Abstract Algebra I
★3 (first term, 3-0-0). Groups, subgroups and normal subgroups, factor groups, homomorphisms, Sylow's theorems. Rings, ideals, quotient rings, homomorphisms, polynomial rings. Prerequisite: MATH 128 and a 300-level Mathematics course.

MATH 427 Honors Abstract Algebra II
★3 (second term, 3-0-0). Modules over a principal ideal domain, finitely generated abelian groups, canonical forms of matrices, fields of characteristic 0, Galois theory. Prerequisite: MATH 227 and MATH 426.

MATH 432 Intermediate Differential Equations
★3 (second term, 3-0-0). Elementary existence and uniqueness theorems. Stability. Perturbation theory. Introduction to numerical methods. Introduction to phase plane analysis. Prerequisite: MATH 334 or 336. Prerequisite or Corequisite: MATH 215 or 317.

MATH 436 Introduction to Partial Differential Equations
★3 (first term, 3-0-0). Introduction to partial differential equations. Cauchy-Kowalewski's theorem, classification of second order linear equations. Elliptic equations (Laplacian and Schrodinger — fundamental solutions, maximal principles, growth estimates). Hyperbolic equations (wave equation characteristics, singularities, Duhamel's principle, Riemann's methods, method of descent). Parabolic equations (heat equation; maximal principles, parametrics). Concept of well-posed problem in the sense of Hadamard. Introduction to numerical methods. Von Neumann criterion. Prerequisites: MATH 334 or 336.

MATH 437 Boundary Value Problems
★3 (second term, 3-0-0). Boundary value problems of classical Math Physics, orthogonal expansions, classical special functions. Advanced transform techniques. Note: This course may not be taken for credit if credit has already been obtained in either MATH 300 or 402. Prerequisites: MATH 334 or 336.

MATH 438 Introduction to Partial Differential Equations II
★3 (second term, 3-0-0). Introduction to transforms; Fourier, Hankel, Laplace; asymptotic approximation of Fourier integrals; applications to discontinous solutions of the wave equation, point sources, fundamental solutions, Green's Functions, with an introduction to generalized functions. Eigenfunction expansions and applications. Difference equations. Prerequisite: MATH 436.

MATH 446 Tensor Analysis
★3 (first term, 3-0-0). Algebra of tensors, covariant differentiation in flat space, affine geometry, Riemannian geometry, Lie differentiation, subspaces, differential forms. Prerequisite: MATH 227 and 317.

MATH 447 Elementary Topology
★3 (second term, 3-0-0). Set Theory, metric spaces and general topology. Compactness, connectedness. Urysohn's Lemma and Tietze's Theorem. Baire Category Theorem. The Tychonoff Theorem. Homotopy and covering spaces. Primarily intended for third and fourth year students with a good background in Mathematics. Prerequisite: MATH 347 (or 217 and any 300-level Mathematics course). Offered in alternate years. It may be offered in intervening years if demand is sufficient.

MATH 448 Elementary Differential Geometry I
★3 (first term, 3-0-0). Local and global geometry of curves in 3-space; surfaces in 3-space: quadrics, surfaces of revolution, ruled surfaces, minimal surfaces, Gaussian curvature, theorema egregium, geodesics, complete surfaces, Gauss-Bonnet Theorem. Prerequisite: MATH 121 or 227, 217 and a 300-level Mathematics course. Offered in alternate years. It may be offered in intervening years if demand is sufficient.

MATH 449 Elementary Differential Geometry II
★3 (second term, 3-0-0). Manifolds, differentiable structure, differential systems, Frobenius theorem, linear connections, Riemannian manifolds, Lie groups, applications in Mathematics and Physics. Prerequisite: MATH 446 or 448 or consent of Department.

MATH 470 An Introduction to Chaotic Dynamical Systems
★3 (second term, 3-0-0). Examples of dynamical systems. Hyperbolicity. Maps of the interval. The example of the quadratic map. Symbolic dynamics and conjugacy. Chaos. Structural stability. Sarkovskii's theorem. The Schwarzian derivation. Bifurcations. Circle maps. Homoclinic points and period-doubling. As time permits, elements of higher dimensional and complex dynamics. Prerequisite: MATH 314 or 317 and MATH 121 or 127 (or the equivalent).

MATH 472 Intermediate Mathematical Modelling II
★3 (second term, 3-0-0). This course is a continuation of MATH 372. Problems discussed will be of a more advanced nature requiring a higher degree of mathematical sophistication. Prerequisite: MATH 372.

MATH 486 Numerical Analysis I
★3 (first term, 3-0-0). Recursive formulas. Propagation of errors, error analysis. Approximation of functions, least squares and orthogonal polynomials. Direct iterative solutions of linear systems. Eigenvalues and eigenvectors. Nonlinear equations. Prerequisite: MATH 227, MATH 317 and an introductory course in Computing Science.

MATH 487 Numerical Analysis II
★3 (second term, 3-0-0). Finite differences. Numerical differentiation and integration. Initial-value problems in ordinary differential equations, stiff problems. Boundary and eigenvalue problems for ordinary differential equations. Prerequisite: MATH 336 and MATH 486.

MATH 496 Honors Seminar
★3 (second term, 3-0-0). This course is intended to give students experience with independent reading, and to improve their ability to present and explain mathematical ideas. The course is compulsory for all fourth year Honors students in BSc and BA Mathematics and BSc Applied Mathematics. Prerequisite: MATH 317.

MATH 497 Reading in Mathematics
★3 (either term, 3-0-0). This course is designed to give credit to mature and able students for reading in areas not covered by courses, under the supervision of a staff member. A student, or group of students, wishing to use this course should find a staff member willing to supervise the proposed reading program. A detailed description of the material to be covered should be submitted to the Chair of the Department Honors Committee. (This should include a description of testing methods to be used.) The program will require the approval of both the Honors Committee, and the Chair of the Department. The students' mastery of the material of the course will be tested by a written or oral examination. This course may be taken in either term and may be taken any number of times, subject always to the approval mentioned above. Prerequisite: Any 300-level Mathematics course.

Note: For courses offered jointly by the Physics and Mathematics Departments, see §194.19 above.

Note: For graduate courses refer to §204.46.5 of

this Calendar.

194.21 Meteorology

Department of Geography

The following table list renumbered courses effective 1990-91:

Old	New	Old	New
METEO 320	METEO 220	METEO 515	METEO 415
METEO 330	METEO 230	METEO 525	METEO 425
METEO 430	METEO 330	METEO 530	METEO 430
METEO 431	METEO 331	METEO 531	METEO 431
METEO 432	METEO 332	METEO 532	METEO 432
METEO 506	METEO 406	METEO 534	METEO 434

METEO 220 Meteorological Instrumentation
★3 (either term, 3-0-2). Theory and practice in the use of common meteorological instruments and in the interpretation of basic weather and climatological data with emphasis on applications in agriculture, forestry, biological and environmental sciences. Measurement problem definition, sampling, sensitivity, response, accuracy, data logging, station networks. Laboratory and outdoor demonstrations and exercises. Field trips required. Prerequisite: GEOG 131 or equivalent.

METEO 230 Introduction to Meteorology
★3 (first term, 3-0-0). A systematic study of weather elements and atmospheric processes, with emphasis on the underlying physical principles. Atmospheric composition, temperature, humidity, wind stability, cloud forms, precipitation processes, fronts and air masses, and an introduction to the practical work in weather observing and elementary weather map analysis. Note: A student may receive credit for only one of METEO 230, METEO 307, or GEOG 333. Prerequisite: GEOG 131 or 100-level Mathematics or Physics course.

METEO 330 Atmospheric Physics I
★3 (first term, 3-0-0). Principles of thermodynamics, thermodynamics of dry and moist air, thermodynamic diagrams, hydrostatic stability, convection, principles of radiation, solar and terrestrial radiation. Prerequisite or corequisite: METEO 230, and MATH 215.

METEO 331 Introduction to Atmospheric Dynamics
★3 (second term, 3-0-0). Kinematics of the atmosphere, equations of motion and their simplification, pressure change, atmospheric interfaces, circulation and vorticity, pressure coordinates, introduction to turbulence. Prerequisite or corequisite: METEO 230 and MATH 215.

METEO 332 Synoptic Meteorology I
★3 (second term, 3-0-3). An introduction to synoptic analysis. Meteorological codes, sea-level map analysis of isobars, air-masses and fronts, stability, constant pressure chart contour and isotherm analysis, thickness charts and thermal winds. Prerequisite: METEO 230.

METEO 406 Reading and Seminar Course in Meteorology
★3 (either term, 3-0-0). Prerequisite: A 300-level Meteorology course.

METEO 415 Meteorological Statistics
★3 (second term, 3-0-0). Application of statistics to meteorology. Fourier analysis, factor analyses, multiple discriminant analysis and curve fitting by regression. Variance spectrum analysis of time series. Prerequisite: A 300-level Meteorology course.

METEO 425 Atmospheric Turbulence and Diffusion
★3 (second term, 3-0-0). Viscosity. Navier-Stokes Equations. Dimensional analysis. Averaging. The Reynolds stress equations. The Boussinesq approximation. The planetary boundary layer. The equilibrium atmospheric surface layer. Evaporation. Advection. Disturbed-surface-layer flows. Canopy flows. Plume rise. Atmospheric diffusion. Numerical simulation of atmospheric flow and mass diffusion. Prerequisite: A 300-level Meteorology course.

METEO 430 Atmospheric Physics
★3 (second term, 3-0-0). Condensation of water vapor in the atmosphere, condensation nuclei, growth of droplets from the vapor, statistical growth of drops by collection, ice nuclei, ice formation, snow crystals, growth of hail, numerical modelling of cumulus clouds and precipitation, artificial modification of clouds, weather radar. Prerequisite: METEO 330.

METEO 432 Synoptic Meteorology II
★3 (first term, 3-0-0). Structure of the atmosphere. The structure and behavior of weather systems. Planetary scale motion systems. Jet streams. Vertical motion. Condensation phenomena. Meso-scale phenomena. Prerequisite: METEO 331, 332.

METEO 433 Applied Meteorology
★3 (second term, 3-0-0). Weather forecasting techniques, student map discussions, visits to weather offices. Guest lectures. Prerequisite: METEO 432.

METEO 434 Atmospheric Modelling
★3 (second term, 3-0-3). Complementary to METEO 433. Advanced synoptic analysis and an introduction to computer methods. Numerical weather prediction, quantitative precipitation forecasting, and interpretation of prognostic charts. Prerequisite: METEO 431 or 432.

METEO 531 Geophysical Fluid Dynamics
★3 (first term, 3-0-0). Planetary fluid dynamics emphasizing waves in the atmosphere. Principles of numerical weather prediction. Prerequisite: METEO 331.

For graduate courses see §204.52.5 of this Calendar.

194.22 Microbiology

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
MICRB 201	MICRB 101	MICRB 432	MICRB 332
MICRB 293	MICRB 193	MICRB 490	MICRB 390
MICRB 324	MICRB 224	MICRB 501	MICRB 498
MICRB 365	MICRB 265	MICRB 506	MICRB 406
MICRB 403	MICRB 303	MICRB 510	MICRB 410
MICRB 411	MICRB 311	MICRB 511	MICRB 499
MICRB 413	MICRB 313	MICRB 515	MICRB 415
MICRB 424	MICRB 324	MICRB 544	MICRB 450

MICRB 101 Elementary Microbiology
★3 (second term, 3-0-3). An introduction to the microbial world, with emphasis on the general characteristics of microorganisms as affecting their relationship with man and other organisms. Note: Offered to students in Agriculture and Forestry. Not available to students in Science.

MICRB 193 Introductory Microbiology
★3 (either term, 3-0-4/2). This course provides an introduction to the biology and practical significance of bacteria, viruses and fungi. It describes the structure, nutrition and physiology of microorganisms in a variety of natural and controlled environments. The beneficial and harmful roles of microorganisms in the ecosphere, infectious diseases, industrial processes and biotechnology will be discussed. The laboratory presents a combination of exercises and demonstrations designed to give the student experience in the handling and examination of microorganisms. Prerequisites: Biology 30 and Chemistry 30.

MICRB 224 Basic Virology
★3 (first term, 3-0-0). An introduction to the structure, replication and taxonomy of bacteriophages, plant, insect and animal viruses. Their role in disease and methods of control and detection also will be discussed. Prerequisites or corequisites: BIOL 201 or MICRB 193. Credit may be obtained in only one of MICRB 224 and MMID 224. (See Calendar §124.10.1).

MICRB 265 General Microbiology
★3 (second term, 3-0-4). The course covers aspects of bacterial physiology such as nutrient uptake, metabolism, extracellular proteins, chemotaxis and differentiation. The eukaryotic microbes, their ecological roles and eukaryotic cell culture will be discussed. The interactions of microbes with the environment and symbiotic relationships are major topics. Basic principles of industrial microbiology and the use of biotechnology for the production of economically and medically important substances will be covered. Laboratory exercises deal with topics related to the lecture material. Prerequisites: MICRB 193 and GENET 197. Corequisite: BIOCH 301.

MICRB 303 Microbial Taxonomy
★3 (first term, 3-0-0). The history, principles, and methods of microbial classification and nomenclature. Prerequisites: MICRB 193, 265.

MICRB 311 Microbial Physiology
★3 (first term, 3-0-0). The structure, growth, and metabolic pathways used by bacteria, yeasts, and molds. Emphasis is placed on the comparative biochemical aspects of microbial life. Prerequisites: MICRB 193, 265, BIOCH 301.

MICRB 313 Microbial Physiology Laboratory
★3 (first term, 0-6L-0). Laboratory exercises introduce the microanalytical techniques used for measuring microbial growth and for following metabolic events at the cellular and subcellular level. Prerequisite or corequisite: MICRB 311.

MICRB 324 Animal Virology
★3 (second term, 3-0-3). The characterization, classification, and replication of animal viruses, together with experimental approaches to the use of various tissue culture systems in virology. Prerequisite: MICRB 224. Prerequisite or corequisite: BIOCH 301.

MICRB 332 Microbial Metabolism
★3 (second term, 3-0-0). Comparative aspects of the metabolic pathways used by anaerobes and autotrophic microorganisms for growth on unique energy sources. Ecological implications of such pathways also will be discussed. Prerequisite: MICRB 311.

MICRB 390 Environmental Microbiology
★3 (first term, 3-0-4). Interrelationships between microorganisms and their living and abiotic environment. Topics include methods of sampling and monitoring microbial activities, petroleum microbiology, eukaryotic tissue as an ecological habitat, microbial adaptation to extreme environments, survivial of airborne microorganisms, microbial response to pollution. Prerequisite: MICRB 265.

MICRB 406 Topics in Cell Biotechnology
★3 (0-2s-0). This course is designed to develop familiarity with current research literature in Cell Biotechnology. Note: Restricted to Honors Cell Biotechnology students.

INT D 407 Intermediary Metabolism
★3 (first term, 3-0-0). A detailed description of enzymatic reactions in biosynthetic pathways of carbohydrate, amino acid, vitamin and coenzyme metabolism, emphasizing interrelationships among microbial and animal cells. Offered in alternate years. Prerequisites: BIOCH 301 and MICRB 311. [Microbiology]

MICRB 410 Structure of Microorganisms
★3 (second term, 3-0-0). Cellular structure of bacteria and lower eukaryotes with particular emphasis on the use of antibiotics as tools for investigating cell structure. Prerequisite: MICRB 311.

MICRB 414 Molecular Biology of Bacterial Viruses
★3 (first term, 3-0-3). The structure and replication of viruses. Prerequisite: MICRB 193; BIOCH 301 and MICRB 224.

MICRB 415 Biosynthesis of Microbial Metabolites
★3 (second term, 3-0-0). Microbial production of organic acids, antibiotics, vitamins, enzymes, and steroids. Emphasis will be placed on control and regulation of metabolic pathways involved in the formation of these microbial products. Prerequisite: MICRB 311.

MICRB 444 Microbial Laboratory Techniques
★6 (second term, 2-0-8). Current techniques used in the growth of procaryotic cells and the isolation and characterization of their macromolecular constituents e.g. enzymes, DNA and ribosomes. Prerequisite: MICRB 313.

MICRB 450 Fermentation Biotechnology
★6 (1-0-6). This course will describe the use of microbes and recombinant DNA constructs in fermentation technology. Course material will also include theoretical aspects of kinetics, design, scale-up and downstream processing. The selection, modification and optimization of the proper organism, medium and fermentation facility and economic considerations will be discussed. Prerequisites: MICRB 311, 313.

MICRB 495 Special Projects
★6 (0-0-6). Directed laboratory studies under supervision of staff members. Prerequisite: MICRB 313. Note: Primarily for senior specialization students.

MICRB 496 Special Projects
★9 (0-0-9). Directed laboratory studies under supervision of staff members. Prerequisite: MICRB 313. Note: Primarily for senior specialization students.

MICRB 497 Special Projects
★12 (0-0-12). Directed laboratory studies under supervision of staff members. Prerequisite: MICRB 313. Note: Primarily for senior specialization students.

MICRB 498 Research Project
★6 (0-0-6). Directed research carried out in the laboratory of an assigned member of the Microbiology Department. The project would normally continue through both the first and second terms of the Winter Session, and would culminate in a written report. Open only to Honors students in the Cell Biotechnology program. Students in the Honors in Cell Biotechnology program take either GENET 401 or MICRB 498. Prerequisite: MICRB 313.

MICRB 499 Honors Projects
★12 (0-0-12). Directed laboratory study under supervision of a staff member, submission of a written research report and participation in departmental seminar program is required. Restricted to Honors Microbiology students in their senior year. Prerequisite: MICRB 313.

For graduate courses in Microbiology refer to §204.53.5 of this Calendar. Not all graduate courses are offered every year. .

194.22.1 Microbiology

Immunology Listings

MICRB 370 Basic Immunology
★3 (first term, 3-0-4). Introduction to immunologic concepts; nature of antibodies; antibody antigen reactions; cell-mediated immunological interactions. The genetic basis of immunological specificity and the regulation of the immune response, including self/non-self recognition will be introduced in the context of the

nodern cellular and molecular models which have been lemonstrated. Some of the biological consequences of he immune system, both beneficial and harmful, will be ntroduced. Prerequisites: GENET 197, BIOCH 301 and ne of BIOL 201 or a 200-level Microbiology course. Not normally open to second-year students.

MICRB 401 Immunology
★3 (second term, 3-0-0). Molecular aspects of immunology. Qualitative and quantitative reactions, properties and structures of antibodies and antigens. Prerequisites: MICRB 193, 370 (or equivalent) and a university course n Biochemistry. Offered in alternate years.

MICRB 405 Immunology Laboratory
★3 (second term, 0-0-3). Laboratory exercises to demonstrate quantitation of the immune response and the solation and characterization of antigens. Offered as Special Project to a very restricted number of students. Approval of instructor required. Corequisite or Prerequisite: MICRB 401.

Note: For other immunology courses not listed above, see GENET 371 (Immunogenetics), IMMUN 500 (§124.8 n the Faculty of Medicine section of this Calendar).

Note: Credit may be given in appropriate cases for courses in microbiology other than those listed above, e.g. FD SC 461, 462; SOILS 430; MMID 361, 425, 426, 504, 505, 506, 508-12, 530, 531. These courses, however, will not count as Science courses for a major or minor.

194.23 Paleontology

Departments of Geology and Zoology

The following table lists renumbered courses effective 1990-91:

Old	New
PALEO 418	PALEO 318
PALEO 419	PALEO 319
PALEO 514	PALEO 414

Note: Certain courses will normally be offered in alternate years when indicated by the symbol "†". If sufficient demand exists, however, exceptions may be made and courses offered in off-cycle years. Students should contact the Department office.

PALEO 318 Paleontology of the Lower Vertebrates
★3 (first term, 3-0-3). Evolution of fish-like vertebrates, amphibians, reptiles and birds, with emphasis on systematics, major adaptive shifts and subsequent evolutionary radiation. Prerequisite: GEOL 201 or ZOOL 225 or ZOOL 200.

PALEO 319 Paleontology of the Higher Vertebrates
★3 (second term, 3-0-3). The Mesozoic history of mammals as illustrative of the origin and evolution of a higher taxon; adaptive radiation of Tertiary mammals, with special emphasis on insectivores, primates, carnivores, proboscidians, and ungulates. Prerequisite: GEOL 210 or ZOOL 225 or ZOOL 200.

PALEO 414 Advanced Paleontology
★3 (second term, 3-0-0). Contemporary aspects of theoretical Paleontology, including: functional morphology, adaptation and evolution in invertebrate and vertebrate fossils; and distribution of fossils as evidence for continental drift. Prerequisite: GEOL 314 or ZOOL 252/253 or consent of the instructors.

Note: For graduate courses in paleontology see §204.59 of this Calendar.

Note: §§194.24 and 194.25 reserved.

194.26 Pharmacology

Department of Pharmacology, Faculty of Medicine

Pharmacology courses are listed in the Faculty of Medicine calendar. See §124.18.

194.27 Physics

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
PHYS 205	PHYS 105	PHYS 405	PHYS 309
PHYS 206	PHYS 106	PHYS 407	PHYS 307
PHYS 241	PHYS 141	PHYS 419	PHYS 319
PHYS 243	PHYS 143	PHYS 461	PHYS 362
PHYS 269	PHYS 169	PHYS 471	PHYS 372
PHYS 303	PHYS 200	PHYS 482	PHYS 382
PHYS 304	PHYS 202	PHYS 495	PHYS 395
PHYS 305	PHYS 204	PHYS 497	PHYS 397
PHYS 306	PHYS 208	PHYS 511	PHYS 411
PHYS 311	PHYS 211	PHYS 513	PHYS 413
PHYS 337	PHYS 238	PHYS 515	PHYS 415
PHYS 343	PHYS 244	PHYS 517	PHYS 417
PHYS 351	PHYS 251	PHYS 545	PHYS 445
PHYS 361	PHYS 261	PHYS 561	PHYS 462
PHYS 363	PHYS 263	PHYS 563	PHYS 463
PHYS 369	PHYS 171	PHYS 565	PHYS 465
PHYS 371	PHYS 271	PHYS 571	PHYS 472
PHYS 385	PHYS 285	PHYS 573	PHYS 473
PHYS 390	PHYS 290	PHYS 575	PHYS 475
PHYS 394	PHYS 294	PHYS 577	PHYS 477
PHYS 401	PHYS 301	PHYS 591	PHYS 491
PHYS 403	PHYS 302	PHYS 593	PHYS 493
		PHYS 599	PHYS 499

194.27.1 General Interest Courses

The following courses are intended for students registered in Arts, Education, Biological Sciences, Medical Sciences, and the BSc (General) program. These courses will stress the physical concepts rather than the mathematical sophistication. Also, please refer to §194.27.2.

Note 1: Credit may be obtained in only one of PHYS 105, 131, 141, or 203.

Note 2: Credit may be obtained in only one of PHYS 106, 137, or 143.

Note 3: Credit may be obtained in only one of PHYS 204, 238, or 285.

Note 4: Astronomy courses offered by the Department of Physics are listed in §194.3.

Note 5: Geophysics courses offered by the Department of Physics are listed in §194.14.

PHYS 105 Introductory General Physics I (Mechanics)
★3 (first term, 3-0-3). Vectors, forces in equilibrium, linear and rotational motion, dynamics of particles, oscillations. Prerequisite: Physics 30, Mathematics 30. Credit may be obtained for only one of PHYS 105, 131, 141, or 203.

PHYS 106 Introductory General Physics II
★3 (second term, 3-0-3). Fluids, Kinetic theory, heat and thermodynamics, electric charge, electric field, electric potential, electric currents, DC circuits. Prerequisite: PHYS 105 or 203. Students with credit in PHYS 207 and/or PHYS 209 may not take PHYS 106. Credit may be obtained in only one of PHYS 106, 137 or 143.

PHYS 169 The Physics of Music and High-Fidelity
★3 (second term, 3-0-0). Waves and sound, complex waves and musical instruments, the nature of music, decibels, loudspeakers, electricity and amplifiers, heat production, electromagnetism and cartridges, records and tape decks. Note: Credit may be obtained in only one of PHYS 169 or 171. This course is not available for credit to students registered in the Faculty of Science.

PHYS 171 Physical Aspects of Music and High-Fidelity
★3 (second term, 3-0-3). A lecture and lab course designed to illustrate the concepts of waves, sound, electricity and magnetism as applied to musical instruments, amplifiers, tuners, records and tape decks. Note: Credit may be obtained in only one of PHYS 169 or 171. This course is not available for credit to students registered in the Faculty of Science.

PHYS 200 Relativistic Aspects of Modern Physics
★3 (second term, 3-0-0). Topics included are limitations of classical physics; Einstein's special theory; length contraction; time dilation; twin paradox; equivalence of mass and energy; relativistic mass and momentum. The General Theory of Relativity including deflection of light, black holes, models of the universe and curvature of space. Prerequisite: First year physics course(s) (two-term). Corequisite: MATH 115. Credit may be obtained in only one of PHYS 200 or 251.

PHYS 202 Revolutions in Physics
★6 (3-0-0). Discussion of the way scientists were forced to change their concepts that caused the major revolutions in physics and the accompanying reverberations in the non-scientific world. Illustrations from celestial motion, Newtonian synthesis, theory of relativity, the probabilistic nature of quantum mechanics. Prerequisite: First year physics course(s) (two-term).

PHYS 204 Introductory General Physics III (Waves, Sound, Electromagnetism and Optics)
★3 (first term, 3-0-3). Wave motion, sound, magnetism. Electromagnetic induction and Faraday's Law. AC circuits. Electromagnetic waves. Geometrical optics. Physical optics. Optical instruments. Prerequisite: PHYS 106. Prerequisite or corequisite: MATH 115. This course is part of a sequence with PHYS 105 and PHYS 106 for General program students. Students with credit in PHYS 207 and 209 may not take PHYS 204.

PHYS 208 Quantum Aspects of Modern Physics
★3 (second term, 3-0-0). Experimental evidence leading to the development of quantum mechanics including the photo-electric effect, the Compton effect, X-ray production and electron diffraction. A discussion of the Heisenberg uncertainty principle and the Schrodinger theory of quantum mechanics including applications of one dimensional potential wells and barriers, tunnelling, the simple harmonic oscillator. Prerequisite: PHYS 204. Credit may be obtained in only one of PHYS 208 or 271.

PHYS 261 Physics of the Energy Question
★3 (first term, 3-0-0). Energy in its various forms. Conservation of Energy Principle Nuclear reactors and their safety. Nuclear fission. Energy conservation. Heat engines, refrigerators and their efficiencies. Exponential growth and resource depletion curves. Stored energy sources. Renewable energy sources. Solar energy and its technology. Prerequisites: First year Physics course(s) (two-term) and MATH 113 or 114, plus one other first year Mathematical course.

PHYS 263 Applications of Physics to Environmental Problems
★3 (second term, 3-0-0). Thermal radiation and molecular absorption; the earth's thermal environment and the Greenhouse Effect. Water vapour and humidity. Atmospheric and adiabatic lapse rates; dispersal of air pollutants. Indoor air pollution. Stratospheric pollution; the ozone layer. Effects of nuclear explosions. Ionising radiation and its effects on man; the radon problem. Prerequisites: Six units of course weight in 100-level Physics and MATH 113 or 114, plus one other 100-level Mathematical course.

PHYS 294 General Physics Laboratory
★3 (0-0-3). Experiments in mechanics, atomic physics, electricity and magnetism. Prerequisite: PHYS 204. Not to be taken by Specialization and Honors students.

PHYS 301 Nuclear Physics and Elementary Particles
★3 (first term, 3-0-0). Topics include the properties and structure of the nucleus; radioactivity, carbon dating, tracer techniques; nuclear fission; fusion; nuclear reactors; elementary particles and particle accelerators. Prerequisite: PHYS 208. Corequisite: MATH 214.

PHYS 302 Atomic Molecular and Laser Physics
★3 (second term, 3-0-0). The Rutherford Model of the atom, the Balmer series in hydrogen, the Bohr model, the wave-mechanical model, electron spin, the Pauli exclusion principle and X-ray spectra. Molecular bonding, experimental and theoretical aspects of molecular strucure, vibrational and rotational spectra of simple molecules. Requirements for laser action, population inversion mechanisms, applications of lasers. Prerequisites: PHYS 208 and MATH 214.

PHYS 307 Solid State and Low Temperature Physics
★3 (second term, 3-0-0). Crystal structure, diffraction and binding. Free electron theory. Energy bands. Semiconductors, p-n junctions and the transistor. Production of low temperatures. Liquifiers. Cryostat design and cryogenics. Superconductivity. Superfluidity. Prerequisites: PHYS 208 and MATH 214.

PHYS 309 Statistical Physics with Biological Applications
★3 (first term, 3-0-0). Elements of probability theory with applications. Molecular motion and physical properties of gases. Random walk in one and three dimensions with application to diffusion and solute flow across boundaries. The diffusion equation. Particle conservation. Fick's Law. Porous membranes. Flow and diffusion of particles. Poisson statistics applied to physical and biological systems. Prerequisite: PHYS 204.

PHYS 319 Physical Principles of Electron Microscopy
★3 (second term, 3-0-0). Review of optics, wave motion and electrons in electric and magnetic fields. Magnetic and electrostatic electron lenses. Resolution and contrast in conventional electron microscopy for biological and crystalline specimens. Elements of electron diffraction, scanning electron microscopy and high resolution electron microscopy. Other topics may include electron energy loss spectroscopy and high voltage electron miscroscopy. Prerequisite: PHYS 204.

194.27.2 Specialization and Honors Courses

The following courses are primarily intended for students registered in various Specialization and Honors programs in the Faculty of Science. However, General students may take the following courses for which they have the prerequisite(s). They should consult a student adviser before registering. Detailed programs of study are listed in §193.1. Students are referred to §194.3 for Astronomy courses, to §194.27.1 for general interest

courses, and to §194.14 for Geophysics courses.

PHYS 141 Mechanics
★3 (first term, 3-0-3). Kinematics; particle dynamics; work and energy; linear momentum; rotational kinematics; rotational dynamics; equilibrium of rigid bodies. Prerequisites: Physics 30 and Mathematics 30. Corequisite: MATH 113, or 114, or 117. Credit may be obtained in only one of PHYS 105, 131, 141, or 203.

PHYS 143 Wave Motion and Electricity
★3 (second term, 3-0-3). Oscillations; wave motion; sound waves; electric charge; electric field; electric potential; Gauss's law; capacitance; electric currents; electromotive forces and D.C. circuits. Prerequisite: PHYS 141. Corequisite: MATH 115 or 118. Credit may be obtained in only one of PHYS 106, 137, 143, or 209.

PHYS 211 Heat, Thermodynamics and Kinetic Theory
★3 (second term, 3-0-0). Temperature, specific heats, phase changes. First and second laws of thermodynamics. Derivation and application of Maxwell's relations. Elementary kinetic theory. Prerequisites: PHYS 141/143. Prerequisites or corequisites: MATH 214/215 or 217/317.

PHYS 238 Electromagnetism and Optics
★3 (either term, 3-0-3/2). Magnetic field; Ampere's Law; Faraday's Law; inductance; magnetic properties of materials; geometrical optics; interference; diffraction. Prerequisite: PHYS 137 or 143.

PHYS 244 Mechanics
★3 (second term, 3-0-0). Particle dynamics; central forces; planetary motion; Rutherford scattering; potential theory; damped and forced oscillations; wave equation; vibrating strings and normal modes. Prerequisite: PHYS 143. Corequisite: MATH 215 or 317.

PHYS 251 Relativity
★3 (second term, 3-0-0). Postulates of Special and General relativity including acceleration, four-vectors, energy and momentum, relativistic connection between electric and magnetic fields, curved space, gravitation and black holes. Prerequisite: PHYS 137 or 143, MATH 115. Credit may be obtained in only one of PHYS 200 or 251.

PHYS 271 Introduction to Modern Physics
★3 (either term, 3-0-0). Thermal radiation and the quantum theory. Planck's radiation law; photoelectric and Compton effects; special relativity; Bohr's atomic theory; X-rays; wave-particle duality; the Stern-Gerlach experiment; the atomic nucleus; radioactive decay. Prerequisite: PHYS 137 or 143. Note: credit may be obtained in only one of PHYS 208 or 271.

PHYS 285 Electromagnetism and Optics
★3 (first term, 3-0-0). Magnetic field, Ampere's Law; Faraday's Law; inductance; magnetic properties of matter; alternating currents; electromagnetic oscillations; electromagnetic waves; interference; diffraction. Prerequisite: PHYS 143. Corequisite: MATH 214 or 217.

PHYS 290 Physics Laboratory A
★3 (0-0-3;0-0-6). Experiments in mechanics, atomic physics, electricity and magnetism. Prerequisite or corequisite: PHYS 244 or 285.

PHYS 362 Optics
★3 (first term, 3-0-0). Gaussian optics; optical instruments; matrix analysis of lens systems; aberrations; polarization; double- and multiple-beam interference; Fraunhofer and Fresnel diffraction; selected topics from contemporary optics. Prerequisite: PHYS 238 or 285.

PHYS 372 Quantum Mechanics A
★3 (second term, 3-0-0). Breakdown of classical mechanics. Schrodinger equation and elementary systems, one dimensional problems. Postulates and interpretation of quantum mechanics. Algebraic solution of Schrodinger equation for harmonic oscillator. Angular momentum and spin. Central force problems, the hydrogenic atom. Prerequisites: PHYS 271 or equivalent, PHYS 238 or 285. Corequisite: MATH 300 or 437.

PHYS 382 Electromagnetic Theory
★6 (3-0-0). Laplace's and Poisson's equations applied to simple cases. Maxwell equations and solutions under various boundary conditions, transmission lines, wave guides, and antennae. Theory of dielectrics and magnetic media. Introduction to plasma physics. Prerequisite: PHYS 238 or 285. Corequisite: MATH 300 or 334/437.

PHYS 395 Instrumentation and Electronics
★3 (first term, 3-0-3). Amplification, feedback and switching. Examples will be taken from analog and digital computer applications. Prerequisite: PHYS 238 or 285 and 290.

PHYS 397 Physics Laboratory
★3 (second term, 0-0-6). A continuation of PHYS 395 with experiments in optics, electricity and magnetism. This course is intended for students in the Honors and Specialization programs. Prerequisite: PHYS 395 or E E 470. Corequisite: PHYS 382.

PHYS 411 Statistical Physics I
★3 (first term, 3-0-0). Kinetic theory of gases, ideal gas, fundamental principles of statistical mechanics, Maxwell-Boltzmann distribution, Gibbs paradox, microcanonical ensemble, canonical ensemble, quantum statistics. Prerequisite: PHYS 211, 372; MATH 300 or 437.

PHYS 413 Statistical Physics II
★3 (second term, 3-0-0). Grand canonical ensemble, Bose condensation, Fermi gas, Debye theory of solids, black-body radiation, ortho- and para-hydrogen, approximation methods. Prerequisite: PHYS 411.

PHYS 415 Introduction to Condensed Matter Physics I
★3 (first term, 3-0-0). Lattice structure and binding. Lattice vibrations. Electrons in solids, band structure of metals, Fermi surface. Semi-conductors and junctions. Paramagnetism and diamagnetism. Introduction to lattice defects. Prerequisite: PHYS 372. Corequisite: PHYS 411.

PHYS 417 Introduction to Condensed Matter Physics II
★3 (second term, 3-0-0). Lattice imperfections, dislocations, crystal growth. First and second order phase transitions. Ferro- and antiferro-magnetism. Production of low temperatures. Super-conductivity and superfluidity. Dielectric and optical properties of solids. Ferro-electricity. Prerequisites: PHYS 411, 415.

PHYS 445 Theory of Classical Fields
★3 (second term, 3-0-0). Lagrangian and Hamiltonian formulations for continuous systems and fields; field equations; Schrodinger field; Scalar field, conservation laws. Prerequisites: PHYS 382 and MA PH 444.

PHYS 462 Atomic and Laser Spectroscopy
★3 (either term, 3-0-0). Radiative transitions; hydrogenic fine-structure; two-electron systems; external fields; width and shape of spectral lines; radiative transfer; population inversion mechanisms; applications of lasers in atomic physics. Prerequisite: PHYS 472.

PHYS 463 Physics of Stellar Atmospheres
★3 (either term, 3-0-0). Introduction to stellar spectra; theory of excitation and ionization; emission and absorption of radiation, continuous spectra; model stellar atmospheres; the Fraunhofer spectrum. Prerequisites: PHYS 271 and MATH 300 or MATH 437.

PHYS 465 Physics of Stellar Interiors
★3 (either term, 3-0-0). Stellar interiors and nuclear transformation; model stars; variable stars; stellar evolution. Prerequisite: PHYS 271, and MATH 300 or 437.

PHYS 472 Quantum Mechanics B
★3 (first term, 3-0-0). Review of the physical basis of quantum mechanics; matrix formulation; angular momemtum; perturbation theory; collision theory; the many-particle Schrodinger equation; identical particles; spin and statistics; atomic and molecular systems. Prerequisite: PHYS 372.

PHYS 473 Nuclear and Particle Physics
★3 (first term, 3-0-0). Electron scattering and the structure of nuclei and particles, symmetries and conservation laws, isospin in nuclear and particle physics; electromagnetic, weak and hadronic interactions; models of nuclear structure; nuclear reactions; quarks and hadron spectroscopy. Prerequisite: PHYS 372.

PHYS 475 Medical Radiation Physics - Fundamentals
★3 (either term, 3-0-0). Basic concepts of dosimetry; microscopic energy distribution in irradiated matter; production of X-rays; charged particle interactions; nuclear magnetic resonance; ionization cavity chambers. Prerequisite: PHYS 372.

PHYS 477 Medical Radiation Physics - Applications
★3 (either term, 3-0-0). The physics of diagnostic imaging with X-rays, isotopes, nuclear magnetic resonance. The physics of radiation therapy-applied dosimetry. Prerequisite: PHYS 475.

PHYS 491 Advanced Laboratory
★3 (first term, 0-0-6). Open-ended experiments in atomic, nuclear and solid state physics. Prerequisites: PHYS 382, 395.

PHYS 493 Instrumentation B
★3 (second term, 3-0-0). Topics in instrument design in several fields of experimental physics. Prerequisites: PHYS 382 and 395.

PHYS 499 Special Projects
★3 (second term, 0-0-6). Experimental or reading project under the direction of a staff member. This course is intended for both Honors Physics students and Honors Mathematical Physics students. Prerequisite: A 300-level Physics course and consent of Department.

For graduate courses in physics refer to §204.66.4 of this Calendar. For courses offered jointly by the Mathematics and Physics Departments see §194.19 above.

Note: §194.28 reserved.

194.29 Physiology

Department of Physiology, Faculty of Medicine

Physiology courses are listed in the Faculty of Medicine calendar. See §124.20.

194.30 Psychology

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
PSYCO 260	PSYCO 104	PSYCO 366	PSYCO 266
PSYCO 309	PSYCO 211	PSYCO 367	PSYCO 267
PSYCO 352	PSYCO 372	PSYCO 368	PSYCO 288
PSYCO 360	PSYCO 208	PSYCO 375	PSYCO 275
PSYCO 361	PSYCO 281	PSYCO 464	PSYCO 484
PSYCO 363	PSYCO 353	PSYCO 599	PSYCO 490

PSYCO 104 Basic Psychological Processes
★3 (either term, 3-0-1/4). Principles and development of perception, motivation, learning, and thinking and their relationship to the psychological functioning of the individual. The course is a prerequisite to most courses in the department and is normally followed by PSYCO 105.

PSYCO 208 General Experimental Psychology
★3 (either term, 3-0-3). A course designed for the Arts concentration covering the application of experimental methods to a wide variety of psychological problems. Prerequisite: PSYCO 104 and 211.

PSYCO 211 Statistical Methods for Psychological Research
★3 (either term, 3-0-1). Application of statistical methods to psychological problems; description of psychological data in terms of averages, measures of variability, and measures of relationships; problems of sampling theory and tests of statistical hypotheses. Prerequisite: Mathematics 30 and PSYCO 104. This course may not be taken for credit if credit has already been obtained in any of STAT 141, 155, 235, 236, 237, 255, 265, 266.

PSYCO 266 Perception
★3 (either term, 3-0-3). An introduction to the mechanisms of sensation and perception. Laboratory sessions provide experience, with experimental procedures and quantitative observation of phenomena discussed in class. Note: Students cannot receive credit for both PSYCO 266 and PSYCO 267. Prerequisite: PSYCO 104 and 211.

PSYCO 267 Perception
★3 (either term, 3-0-0). An introduction to theoretical and experimental issues associated with sensory and perceptual experience. Note: Students cannot receive credit for both PSYCO 266 and PSYCO 267. Prerequisite: PSYCO 104 and 211.

PSYCO 275 Brain and Behavior
★3 (either term, 3-0-0). An introduction to brain mechanisms involved in sensation, perception, movement, motivation, learning, and cognition, as studied in both humans and lower animals. Prerequisite: PSYCO 104 and Biology 30 or equivalent.

PSYCO 281 Principles of Behavior Change
★3 (either term, 3-0-0). An introduction to behavior change techniques. The course will examine the origin of such techniques in animal experimentation and learning theory, and an evaluation of their effectiveness when applied to specific problem populations. Prerequisite: PSYCO 104.

PSYCO 288 Principles of Learning
★3 (either term, 3-0-0). A survey of the field of learning including a consideration of classical conditioning, instrumental learning, and memory. Empirical issues arising from research on non-human animals will be emphasized. Prerequisite: PSYCO 104 and PSYCO 211.

PSYCO 306 Honors Seminar
★3 (first term, 3-0-0). Corequisite: A 200-level Psychology course and consent of Department. Note: Required of all students in their first year of Honors Psychology.

PSYCO 307 Honors Seminar
★3 (second term, 3-0-0). Prerequisite: PSYCO 306 and consent of Department. Note: Required of all students in their first year Honors Psychology.

PSYCO 353 Memory and Attention
★3 (either term, 3-0-0). An introduction to the study of mental processes in memory, attention, and cognition. Topics include visual information processing, attention, short- and long-term memory phenomena, learning, and language comprehension. Note: Formerly PSYCO 363. Not to be taken by students with credit in that course. Prerequisite: PSYCO 104 and 211.

PSYCO 372 Behavior in Relation to Genetics
r3 (either term, 3-0-0). An examination of the influence f genetic variations on behavioral differences in infra- uman and human populations. Prerequisite: PSYCO 04/105 and PSYCO 211 and GENET 197.

PSYCO 377 Human Neuropsychology
r3 (second term, 3-0-0). Changes in mood, motivation, erception, attention, memory and language as revealed y studies of structural alterations in the human brain. rerequisite: PSYCO 104 and a 200-level Psychology ourse. Note: Previously offered as PSYCO 477. Stu- ents cannot receive credit for PSYCO 377 if they eceived credit for PSYCO 477.

PSYCO 402 Recent Advances in Experimental sychology: Methods and Phenomena
r3 (either term, 3-0-2). Discussion and demonstration f the techniques and discoveries of selected fields ithin experimental psychology. The course will provide aboratory experience with the empirical findings of hese fields. Students are encouraged to check with the epartment regarding the topic for the current year. rerequisite: PSYCO 211, a 300-level Psychology course nd consent of Department.

PSYCO 403 Recent Advances in Experimental sychology: Models and Theories
r3 (either term, 3-0-0). Discussion of advanced con- epts and theories developed by selected fields within xperimental psychology. The course will examine the elation between theory and data in these fields. Students re encouraged to check with the Department regarding he topic for the current year. Prerequisite: PSCYO 211, 300-level Psychology course and consent of Department.

PSYCO 406 Honors Seminar
r3 (first term, 3-0-3). Prerequisite: PSYCO 307.

PSYCO 407 Honors Seminar
r3 (second term, 3-0-3). Prerequisite: PSYCO 406.

PSYCO 433 Test Theory
r3 (either term, 3-0-1). Principles of diagnosis and rediction, and the assessment of tests. Emphasis upon he concepts of "validity" and "reliability" with lesser reatment of multiple regression and factor analysis. abs will focus on applied examples. Prerequisite: PSYCO 11 and a 300-level Psychology course.

PSYCO 461 Methods of Behaviour and Learning
r3 (second term, 0-0-6). Laboratory methods used to tudy Pavlovian conditioning, instrumental conditioning nd decision processes. Prerequisite: PSYCO 288 and 300-level Psychology course.

PSYCO 462 Applications of Learning
r3 (first term, 3-0-0). An examination of the ways in which principles of conditioning and learning have been pplied to areas of human concern. Biomedical and ehavioral implications of learning principles will be xamined in terms of the empirical foundations of the rinciples, and the successes or problems encountered n applying the principles to the understanding or treat- ment of human behavior. Prerequisite: PSYCO 288 and 300-level Psychology course.

PSYCO 463 Psychology of Language
r3 (either term, 3-0-0). Covers theoretical and empirical ssues in language comprehension, production, and cquisition from a cognitive perspective. Topics include he representation of word structure and meaning, the reation of syntactic structures, and discourse-level henomena such as inferencing and the use of meta- hors. Prerequisite: PSYCO 353 or 358.

PSYCO 465 Human Aging: Cognitive Processes
r3 (first term, 3-0-0). A survey of the sensory, percep- ual, memory, and cognitive changes in normal aging. opics include the relationship of psychological, envi- onmental, social and health factors to cognitive processes. rerequisite: One of PSYCO 353, 358, 360, 366, or 367.

PSYCO 466 Advanced Perception
r3 (second term, 3-0-0). Covers the origin and current tatus of several major problem areas within the study of erception. Provides the historical background and nowledge of recent theoretical and experimental contri- utions required to understand current conceptual schemes nd disputes. Prerequisite: PSYCO 266 or PSYCO 267 nd a 300-level Psychology course.

PSYCO 468 Auditory Perception
r3 (either term, 3-0-0). Nature of basic auditory experi- nce. Includes topics of pitch perception, loudness and naskING, perception of complex sounds, auditory pat- ern perceptions, and localization of sound. Prerequisite: PSYCO 266 or PSYCO 267 and a 300-level Psychology ourse.

PSYCO 469 Theories of Learning
r3 (either term, 3-0-0). An examination of major theo- retical treatments of learning including those of Thorndike, Pavlov, Tolman, Hull and Skinner. Recent theoretical developments, such as information-processing and bio- logical theories will be considered. Prerequisite: PSYCO 288 and a 300-level Psychology course.

PSYCO 470 Advanced Topics in Physiological Psychology
★3 (either term, 3-0-0). Special topics related to staff interests. The course provides students with an in-depth view of current issues and research strategies regarding neural mechanisms of learning, motivation, sensation, or perception. Students are encouraged to check with the Department for the topic for the current year. Prerequisite: PSYCO 275 and a 300-level Psychology course.

NEURO 471 Neuroscience I: Cells, Membranes and Molecules
★3 (first term, 3-0-0). Lectures presented by the Faculty of Medicine and the Faculty of Science on excitable membranes, action potential mechanisms, conduction and synaptic mechanisms; factors modifying degeneration, regeneration, development and learning. Prerequisite: PHYSL 310 or PSYCO 275 or ZOOL 241 or ZOOL 242.

PSYCO 471 The Neurobiology of Learning and Memory
★3 (first term, 3-0-0). An advanced level course examining specific physiological accounts of reinforcement, learning and memory phenomena, and the relationship between physiological models and behavioral theory. The use of anima models for the study of memory dysfunction in humans will also be considered. Prerequisite: PSYCO 275 and a 300-level course in Psychology.

NEURO 472 Neuroscience II: Systems
★3 (second term, 3-0-0). Lectures presented by the Faculty of Science and the Faculty of Medicine on visual and somatosensory systems, motor control via reflexes and central pattern generators; homeostasis, control of feeding, drinking, temperature and reproduction; neurobehavioral aspects of attention, arousal, cognition, memory and cerebral asymmetry. Prerequisite: PHYSL 310 or PSYCO 275 or ZOOL 241 or equivalent.

PSYCO 475 Biological Bases of Behavior
★3 (first term, 0-0-6). Basic neuroanatomy and neuropsychology of sensory and motor systems. Prerequisite or corequisite: PSYCO 275 and a 300-level Psychology course.

PSYCO 476 Physiological Psychology
★3 (second term, 0-0-6). A laboratory course in experimental design and research in physiological psychology. Prerequisite: PSYCO 475.

PSYCO 484 The Learning, Memory and Control of Movement
★3 (first term, 3-0-3). A survey of the issues, experimentation and theories that surround the learning, memory, and control of human movement. Prerequisite: One of PSYCO 208, 267, 275, 288, or 353.

PSYCO 488 Behavior and Brain Chemistry
★3 (first term, 3-0-0). The influence of environmental and genetic factors on the relationship between chemistry of the brain and the behavior of humans and animals. Prerequisite: PSYCO 104,105, 275 and a 300-level Psychology course.

PSYCO 496 Individual Research I
★3 (first term, 3-0-3). A course designed to allow the senior undergraduate to pursue a research topic in more depth than the classroom structure permits. Prerequisite: A 300-level Psychology course and consent of Department.

PSYCO 497 Individual Research II
★3 (second term, 3-0-3). A course designed to allow the senior undergraduate to pursue a research topic in more depth than the classroom structure permits. Prerequisite: A 300-level Psychology course and consent of Department.

For graduate courses in psychology refer to §204.71.5 of this Calendar.

194.31 Statistics and Applied Probability

Note: See §192.4 regarding statistics courses offered by faculties other than Science.

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
STAT 241	STAT 141	STAT 355	STAT 255
STAT 255	STAT 155	STAT 365	STAT 265
STAT 321	STAT 221	STAT 366	STAT 266
STAT 322	STAT 222	STAT 419	STAT 319
STAT 335	STAT 235	STAT 441	STAT 341
STAT 336	STAT 236	STAT 461	STAT 361
STAT 337	STAT 237	STAT 477	STAT 377

STAT 141 Introduction to Statistics
★3 (either term, 3-0-0). Random variables and frequency distributions. Averages and variance. The binomial and normal distribution. Sampling distributions and elementary inference. X^2-test for contingency tables. Regression and correlation. Analysis of variance. Prerequisite: Mathematics 30 or consent of Department. This course may not be taken for credit if credit has already been obtained in any of STAT 155, 221, 235, 236, 237, 251, 255, 265 or PSYCO 211.

STAT 221 Applied Probability
★3 (first term, 3-0-2). Probability models; distribution of one and two random variables; moment generating functions; specific distributions; uniform, binomial, geometric, Poisson, exponential, normal, etc. Analysis of decision problems; decision conditions and criteria; information and utility in decision making. Various applications are considered with emphasis on the analysis of computer systems; simulation techniques are used and the algorithmic approach is used throughout the course. Pascal is used in laboratory periods. This course is restricted to Honors and Specialization students in Computing Science. Prerequisites: MATH 115 and MATH 120 or equivalents. Corequisite: MATH 214 or 217. Credit may not be obtained for both STAT 221 and STAT 265.

STAT 222 Applied Statistics
★3 (second term, 3-0-2). Sampling distributions; estimation; hypothesis testing; linear regression of two or more variables; simulation of samples; cost analyses; applications which are primarily of interest to computing scientists. This course is restricted to Honors and Specialization students in Computing Science. Prerequisite: STAT 221. Credit may not be obtained for both STAT 222 and STAT 366.

STAT 235 Introductory Statistics for Engineering
★3 (either term, 3-0-2). Descriptive data analysis. Calculus of Probability. Binomial, multinomial, poisson, normal, beta, exponential, gamma, hypergeometric, and weibull distributions. Sampling distributions. Estimation, testing hypotheses, goodness-of-fit tests, and one-way analysis of variance. Linear correlation and regression. Sampling. Quality control. Use of a microcomputer software package for statistical analyses in engineering applications. Prerequisites: ENCMP 100, MATH 101. Credit may not be obtained in STAT 235 if credit has already been obtained in STAT 265.

STAT 236 Introduction to Statistics
★3 (either term, 3-0-2). Frequency distributions, measures of central tendency and dispersion, sampling distributions, inference on means and proportions, analysis of variance, regression and correlation, contingency tables. Difficulties in applying these techniques will be illustrated by examples chosen subject to the students' backgrounds. Prerequisite: A 100-level Science course. This course may not be taken for credit if credit has already been obtained in any of STAT 141, 155, 235, 237, 255, 265 or PSYCO 211.

STAT 237 Biostatistics
★3 (either term, 3-0-1). Frequency distributions, measures of central tendency and dispersion, methods of sampling biological populations, sampling distributions, elementary inference on means and proportions, analysis of variance, regression and correlation, contingency tables. The concepts will be motivated by problems in the life sciences. Difficulties in actual applications will be stressed. Prerequisite: A 100-level Biological Sciences course. This course may not be taken for credit if credit has already been obtained in any of STAT 141, 155, 221, 236, 251, 255, 265 or Psyco 211.

STAT 251 Introduction to Applied Statistics I
★3 (either term, 3-0-2). Data collection and presentation, descriptive statistics. Probability distributions, sampling distributions and the central limit theorem. Point estimation and hypothesis testing. Correlation and regression analysis. Goodness of fit and contingency table. Prerequisite: MATH 115. This course may not be taken for credit if credit has already been obtained in any of STAT 141,155,221,236, 237,255,265 or PSYCO 211.

STAT 252 Introduction to Applied Statistics II
★3 (either term, 3-0-2). Methods in applied statistics including regression techniques, analysis of variance and covariance, and methods of data analysis. Applications are taken from the Social and Physical Sciences and Business. Prerequisite: STAT 141 or 251, or equivalent.

STAT 255 Introductory Statistics for Economics
★6 (3-0-3). Frequency distributions and graphs. Sample statistics. Basic probability. Probability distributions and the expectation operator. Sampling. Significance tests and sampling distributions. Contigency tables. Regression and correlation. Analysis of variance. Times series. Index numbers. Nonparametric inference. Prerequisite: MATH 113 or equivalent. This course may not be taken for credit if credit has already been obtained in any of STAT 141, 155, 221, 235, 236, 237, 251, 252, 265 or Psyco 211.

STAT 265 Elements of Probability Theory
★3 (second term, 3-0-0). Probability spaces; random variables, random vectors and probability distributions. Expectation, moments and conditional probability.

Prerequisite: MATH 115 or equivalent. Corequisite: MATH 214. Credit may not be obtained for both STAT 265 and STAT 221.

STAT 319 Intermediate Statistical Methods in Psychological Research
★3 (second term, 3-0-0). The application of probability theory to psychological problems. Correlation and regression techniques. Introduction to the analysis of variance and non-parametric techniques. Note: This course is open only to students concentrating in Psychology. Prerequisite: PSYCO 211 or STAT 251 or equivalent.

STAT 341 Applied Statistical Methods
★3 (either term, 3-0-2). Methods in applied statistics including regression techniques, analysis of variance and covariance, and methods of data analysis. Applications are taken from the Social and Physical Sciences and Commerce. Prerequisites: STAT 141or 251 or 237 or equivalent. Note: This course is not available to a student in the Honors or Specialization programs in Mathematics and/or Statistics.

STAT 361 Sampling Techniques
★3 (either term, 3-0-0). Simple random sampling from finite populations, stratified sampling, regression estimators, cluster sampling. Note: This course may only be offered in alternate years. Prerequisites: STAT 265 and one other Statistics course.

STAT 365 Applied Regression Analysis
★3 (either term, 3-0-0). Simple linear regression analysis, inference on regression parameters, residual analysis, prediction intervals, weighted least squares. Multiple regression analysis, inference about regression parameters, multicollinearity and its effects, indicator variables, selection of independent variables. Non-linear regression. Note: Data analysis will be done using SAS or SPSS-X or MINITAB computer packages. Prerequisite: A course in Linear Algebra and STAT 221 or 265 or equivalent. This course may not be taken for credit if credit has already been obtained in STAT 465.

STAT 366 Elements of Statistical Inference
★3 (first term, 3-0-0). Principles of parametric and nonparametric statistical inference. Hypotheses testing: one- two- and multi-sample problems; confidence intervals. Nonparametric inference. Prerequisite: STAT 265 and MATH 215. This course may not be taken for credit if credit has already been obtained in STAT 222 or 266.

STAT 368 Introduction to Design and Analysis of Experiments
★3 (either term, 3-0-0). Basic principles of experimental design, completely randomized design-one way ANOVA and ANCOVA, randomized block design, latin square design, Multiple comparisons. Nested designs. Factorial experiments. Note: Data analysis will be done using SAS or SPSS-X or MINITAB computer packages. Prerequisites: A course in Linear Algebra and STAT 265 or equivalent.

STAT 377 Non-Parametric Inference
★3 (either term, 3-0-0). Tests for randomness, goodness of fit, tests for location and scale, non-parametric estimators. Robust statistics. Introduction to computer packages for non-parametric statistics. Note: This course may be offered only in alternate years. Prerequisites: STAT 265 and one other statistics course.

STAT 466 Statistical Inference
★3 (second term, 3-0-0). Foundations of statistical inference. Point estimation, properties of estimates. Multivariate normal distribution. Testing statistical hypotheses, likelihood ratio test, Chi-square t- and F-test. Confidence intervals. Prerequisite: STAT 366 and 471.

STAT 471 Probability I
★3 (first term, 3-0-0). Probability spaces, algebra of events. Elements of combinatorial analysis. Conditional probability, stochastic independence. Special discrete and continuous distributions. Random variables, moments, transformations. Basic limit theorems. Prerequisites: STAT 265, MATH 214, 215, and a 300-level Statistics or Mathematics course.

STAT 472 Probability II
★3 (second term, 3-0-0). Sequences of Bernoulli trials, laws of large numbers, normal approximations. Generating functions, recurrent events, random walks. Introduction to Markov chains. Special topics. Prerequisite: STAT 471.

STAT 475 Applied Multivariate Analysis
★3 (either term, 3-0-0). The multivariate normal distribution, multivariate regression and regression and analysis of variance, classification, canonical correlation, principal components, factor analysis, introduction to multivariate computer packages. Prerequisites: Two single-term courses in linear algebra, and STAT 365.

STAT 479 Time Series Analysis
★3 (either term, 3-0-0). Stationary series, spectral analysis, models in time series: autoregressive, moving average, ARMA and ARIMA. Smoothing series, computational techniques and computer packages for time series. Note: This course may be offered only in alternate years. Prerequisites: STAT 265 and STAT 366.

For graduate courses in statistics refer to §204.81.4 of this Calendar.

194.32 Zoology

Note 1: See also courses listed under Biology, §194.5, Botany, §194.6, Marine Science §194.18 or Paleontology §194.23.

Note 2: Specified prerequisites for senior courses may be waived for advanced students; consult the Department.

Note 3: Where a course prerequisite is a Biological Sciences course, courses titled Biology, Botany, Entomology, Genetics, Microbiology, Paleontology, and Zoology may be used.

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
ZOOL 220	ZOOL 120	ZOOL 442	ZOOL 342
ZOOL 300	ZOOL 200	ZOOL 443	ZOOL 343
ZOOL 301	ZOOL 201	ZOOL 451	ZOOL 351
ZOOL 325	ZOOL 225	ZOOL 452	ZOOL 352
ZOOL 326	ZOOL 226	ZOOL 453	ZOOL 353
ZOOL 331	ZOOL 231	ZOOL 454	ZOOL 354
ZOOL 341	ZOOL 241	ZOOL 461	ZOOL 361
ZOOL 342	ZOOL 242	ZOOL 466	ZOOL 366
ZOOL 350	ZOOL 250	ZOOL 470	ZOOL 370
ZOOL 352	ZOOL 252	ZOOL 471	ZOOL 371
ZOOL 353	ZOOL 253	ZOOL 482	ZOOL 382
ZOOL 360	ZOOL 260	ZOOL 501	ZOOL 499
ZOOL 405	ZOOL 305	ZOOL 506	ZOOL 406
ZOOL 406	ZOOL 306	ZOOL 511	ZOOL 411
ZOOL 407	ZOOL 307	ZOOL 512	ZOOL 412
ZOOL 408	ZOOL 308	ZOOL 520	ZOOL 420
ZOOL 411	ZOOL 311	ZOOL 534	ZOOL 422
ZOOL 421	ZOOL 321	ZOOL 535	ZOOL 423
ZOOL 431	ZOOL 331	ZOOL 529	ZOOL 429
ZOOL 432	ZOOL 332	ZOOL 530	ZOOL 431
ZOOL 435	ZOOL 335	ZOOL 542	ZOOL 442
ZOOL 440	ZOOL 340	ZOOL 552	ZOOL 452
ZOOL 441	ZOOL 341	ZOOL 561	ZOOL 461
		ZOOL 571	ZOOL 471
		ZOOL 572	ZOOL 472

194.32.1 Junior Courses

ZOOL 120 Principles of Animal Biology
★3 (either term, 3-0-3). An introduction to the structure, function, and phylogeny of animals, with emphasis on regulation of metabolism, reproduction and development, and interactions among organisms. Prerequisite: Biology 30. May not be taken if credit has been obtained in both BIOL 296 and 299.

194.32.2 Senior Courses

Note: Not all senior courses are offered every year. Check with the Zoology office (CW312 Biological Sciences) for current offerings.

ZOOL 200 The Chordates
★6 (3-0-3). The comparative anatomy and phylogeny of the protochordates, fishes, amphibians, reptiles, birds, and mammals. Note: Restricted to Zoology Honors and Specialization students. Others by permission only, or take ZOOL 225/226. Prerequisite: ZOOL 120.

ZOOL 201 Natural History of the Vertebrates of Alberta
★3 (second term, 3-0-3). The identification, distribution, habitats, and life histories of the fishes, amphibians, reptiles, birds, and mammals of Alberta. Prerequisite: A 100-level Biological Sciences course.

ZOOL 225 Comparative Anatomy of the Vertebrates
★3 (first term, 3-0-3). Comparative anatomy of the vertebrates with special emphasis on the mammals. Prerequisite: ZOOL 120.

ZOOL 226 Biology of the Vertebrates
★3 (second term, 3-0-3). Topics in vertebrate biology, including zoogeography, population ecology, reproduction, and structural and behavioral adaptations. Prerequisite: ZOOL 225 strongly recommended, or consent of Department.

ZOOL 231 Principles of Ecology
★3 (first term, 3-0-3). The scientific study of interactions between organisms and their environment, at the organismal, population, community and ecosystem levels of organization. Designed to provide a comprehensive survey of general concepts that can stand alone or serve as preparation for advanced courses in ecology, in either the Departments of Botany or Zoology. Labs emphasize the collection, analysis, and interpretation of data from ecological experiments. Zoological material will be emphasized. Prerequisite: ZOOL 120 or BOT 199.

ZOOL 241 Vertebrate Physiology
★3 (first term, 3-0-0). Functional biology at the organ system level. A student may not register concurrently for ZOOL 241 and either ZOOL 242 or PHYSL 310. A student with credit in either ZOOL 242 or PHYSL 310 may not obtain credit in ZOOL 241. Prerequisite: ZOOL 120.

ZOOL 242 Principles of Animal Physiology
★6 (3-0-3). A survey of physiological systems with emphasis on their experimental study. Examples are chosen from vertebrates and invertebrates. Restricted to Zoology Honors and Specialization students. Others by permission only. Departmental approval required for students who have taken, or who wish to take ZOOL 241 or PHYSL 310 for credit. Prerequisite: ZOOL 120.

ZOOL 250 Survey of the Invertebrates
★3 (second term, 3-0-3). The functional anatomy and life cycles of the major invertebrate taxa are emphasized. Not designed for Zoology Honors students. Prerequisite: ZOOL 120.

ZOOL 252 The Invertebrates I
★3 (first term, 3-0-3). The lower invertebrate phyla and Deuterostomia. Note: Restricted to Zoology and Entomology Honors and Specialization students. Others by permission only, or take ZOOL 250. Prerequisite: ZOOL 120.

ZOOL 253 The Invertebrates II
★3 (second term, 3-0-3). The Protostomia. Prerequisite: ZOOL 252.

ZOOL 260 Man and Bioshpere
★3 (either term, 3-0-0). A consideration of man's place in the biosphere and of the biological bases of environmental problems including population, pollution, and consideration of renewable and aesthetic resources. Note: Credit may not be obtained for both BIOL 110 and ZOOL 260. Prerequisite: One full year of university-level Biology, preferably including BIOL 100 or equivalent.

ZOOL 305 Ichthyology
★3 (first term, 3-0-3). Prerequisite: ZOOL 200 or ZOOL 225.

ZOOL 306 Ornithology
★3 (first term, 3-0-3). Prerequisite: ZOOL 200 or 226.

ZOOL 307 Herpetology
★3 (second term, 3-0-3). Prerequisite: ZOOL 200 or 226.

ZOOL 308 Mammalogy
★3 (second term, 3-0-3). Prerequisite: ZOOL 200 or 226.

ZOOL 311 Analysis of Animal Development
★3 (first term, 3-0-3). This course introduces the experimental basis of our understanding of the development of organ systems such as the reproductive system, the brain and endocrine system, muscle, bone, etc. It deals with cell interactions and gene expression during tissue differentiation. Prerequisite: BIOL 202 and ZOOL 200 or equivalent.

ZOOL 321 Mechanisms of Evolution
★3 (first term, 3-0-0). Prerequisite: GENET 197, ZOOL 231.

ZOOL 331 Animal Population Ecology
★3 (second term, 3-0-3). A study of population growth, regulation and cycles; life histories; predation; competition; mutualism; population structure; habitat selection and foraging theory. Prerequisite: ZOOL 231 or equivalent. Offered in alternate years.

ZOOL 332 Animal Community Ecology
★3 (second term, 3-0-3). A study of niche theory: food webs; competition predation, disturbance and their effects on community diversity; diversity gradients; island biogeography; taxon cycles; convergence of community structure. Prerequisite: ZOOL 231 or equivalent. Offered in alternate years.

ZOOL 335 Principles of Zoological Systematics
★3 (second term, 3-0-0). An introduction to the principles, methods, and practical applications of zoological systematics, including classification, phylogeny, and zoogeography. Special emphasis is placed on the theories of and controversy surrounding the phenetic, cladistic, and synthetic schools of taxonomy. Prerequisite: A 200-level Biological Sciences course. Offered in alternate years.

ZOOL 340 Environmental Physiology
★3 (first term, 3-0-0). The influence of environmental variables on animal function. Prerequisite: ZOOL 241, or 242. Offered in alternate years.

ZOOL 341 Comparative Animal Physiology I
★3 (first term, 3-0-0). Water and solute metabolism,

rculation, respiration, energy metabolism and tem-erature regulation in major animal phyla. Prerequisite: OOL 241 or 242.

OOL 342 Comparative Animal Physiology II
3 (second term, 3-0-0). Excitation and conduction, ›ural and endocrine control and coordination in major ›imal phyla. Prerequisite: ZOOL 241 or 242. Offered in ›ternate years.

OOL 343 Comparative Endocrinology
3 (second term, 3-0-0). Endocrine systems and ac-ons of hormones in vertebrates and invertebrates. rerequisite: ZOOL 241 or 242. Offered in alternate ›ars.

OOL 351 Aquatic Invertebrates of Alberta
3 (first term, 3-0-3). Emphasis is on an identified ollection of invertebrates found in Alberta's lakes and reams. Lecture material pertains mainly to ecological atures of the various fresh water groups. Prerequisite: OOL 250 or 252/253.

OOL 352 Principles of Parasitism
3 (first term, 3-0-3). Host and parasite adaptations; lationships with other forms of symbiosis; effects on ost and parasite; parasitism and disease. Note: ZOOL 52 may be taken as a corequisite with consent of epartment. Prerequisite: ZOOL 231; ZOOL 250 or 52/253.

OOL 353 Protozoology
3 (first term, 0-1s-6). Individual laboratory projects and minars dealing with free living and parasitic protozoa. rerequisite: ZOOL 250 or 252/253. Offered in alternate ›ars.

OOL 354 Wildlife Disease
3 (second term, 3-0-3). Etiology, ecology and athogenesis of parasitic, viral, bacterial and non-infec-ous diseases of mammals, birds and fish. Prerequisite: N SC 350 or FOR 365 or MICRB 265 or 200-level ourse in Zoology. Offered in alternate years.

OOL 361 Marine Biology
3 (second term, 3-0-0). Marine environments; adapta-ons of animals to different marine habitats; exploitation nd conservation of the oceans. Prerequisite: ZOOL 250 r 252/253.

OOL 366 Boreal Ecology
3 (second term, 3-0-0). Terrestrial and aquatic ecosys-ems of the north, emphasizing special features of the nvironment and biotic responses. Prerequisite: ZOOL 31, or consent of Department. Note: See GEOG 65, 466.

OOL 370 Ethological Mechanisms
3 (first term, 3-0-3). Animal behavior from an ethologi-al perspective, with emphasis on the mechanisms nderlying a variety of behaviors. The material is intended o complement that of ZOOL 371. (Alternates with ZOOL 71.) Prerequisite or corequisite: ZOOL 241 or 242.

OOL 371 Behavioral Ecology and Sociobiology
3 (first term, 3-0-3). Animal behavior from an ecologi-al and evolutionary perspective, with emphasis on ocial behavior. The material is intended to complement hat of ZOOL 370. (Alternates with ZOOL 370). Prereq-isite: ZOOL 231.

OOL 382 Comparative Vertebrate Histology
3 (second term, 3-0-3). A comparative study of the tructure and function of vertebrate organ systems at he cellular and histological level. Prerequisite: ZOOL 00 or 225.

OOL 406 Current Problems in Ornithology
3 (second term, 3-0-0). Discussion of ecological, ehavioral, evolutionary, and physiological topics using irds as a focus. Emphasis will be on methodology and nterpretation of recent papers. Prerequisite: ZOOL 306.

OOL 411 Current Problems in Animal Development
3 (second term, 3-0-0). A series of topics in animal levelopment are reviewed and significant papers are iscussed. Prerequisite: ZOOL 311. Credit for this couse nay be obtained more than once. Offered in alternate ›ears.

OOL 412 Immunogenesis
3 (second term, 3-0-0). The phylogenesis and ontogenesis f the immune response. Prerequisite: MICRB 370 or 01 or GENET 371 or a 300-level Biological Sciences ourse. Offered in alternate years.

OOL 422 Molecular Evolutionary Biology
3 (second term, 3-0-3). Laboratory techniques and the pplication and interpretation of protein and DNA varia-ion in evolutionary biology: phylogeny reconstruction nd vicariance biogeography (with particular emphasis on roblems unique to molecular data), paternity analysis, irection and extent of hybridization, various aspects of opulation structure (e.g., inbreeding, population subdivi-ion). Prerequisite: BIOCH 301 and consent of Department. ENET 280 or ZOOL 321 strongly recommended.

OOL 423 Current Problems in Evolutionary Genetics
3 (first term, 3-0-0). Discussion of selected topics in ecological genetics emphasizing both methodology and interpretation. The course will focus on a detailed dis-cussion of a few topics, rather than on a general review, and will rely heavily upon readings from the primary literature. Prerequisite: ZOOL 231 or ZOOL 321 or GENET 280. Credit for this course may be obtained more than once.

ZOOL 429 Special Problems in Zoology
★3 (either term, 3-0-0). Registration will be contingent on the student's having made prior arrangements with a faculty member willing to teach the course. Credit for this course may be obtained more than once. Prerequi-site: A 300-level Biological Sciences course and consent of Department.

ZOOL 430 Experimental Zoology
★3 (second term, 3-0-3). Emphasis is on the design of experiments and analysis of data collected from field and laboratory studies in Zoology. Prerequisites: STAT 237 and a 300-level Biolodical Sciences course.

ZOOL 431 Individual Study
★3 (either term, 0-0-6). Registration will be contingent on the student's having made prior arrangements with a faculty member willing to supervise the program. Suc-cessful completion of this course requires an oral pres-entation on the research project to students registered in the course. Credit for this course may be obtained more than once. Prerequisites: A 300-level Biological Sciences course and consent of Department.

ZOOL 434 Field Course in Animal Ecology
★3 (first term, 0-0-6). The application of ecological principles to patterns observed in Alberta terrestrial and aquatic communities; includes day-long and weekend field trips, as well as laboratories focused on the analy-sis of ecological data. Prerequisites: ZOOL 331 or 332; STAT 237.

ZOOL 436 Theoretical Population Biology
★3 (second term, 3-0-3). The use of mathematical models to aid in the understanding of biological proc-esses will be illustrated using examples from behavior, ecology and evolution. Emphasis will be placed on the interrelationships between the observations from field and laboratory studies, and the structure and predictions of mathematical models. The labs will be used to illustrate and develop models of biological processes on the computer. Prerequisite: MATH 113, STAT 237, ZOOL 231, and a 300-level Biological Sciences course.

ZOOL 442 Current Problems in Neurobiology
★3 (second term, 3-0-0). Discussion of selected topics in invertebrate and vertebrate neurobiology. Prerequi-site: ZOOL 342 or consent of Department. Credit for this course may be obtained more than once.

ZOOL 444 Laboratory Experimental in Animal Physiology
★3 (either term, 0-0-6). Special projects in research laboratories. Prerequisite: ZOOL 340, 341, 342 or 343 and consent of Department.

ZOOL 452 Experimental Parasitology
★3 (second term, 0-1s-6). Experimental approaches to study host-parasite relationships including *in vitro* cultiva-tion of parasites, characterization of parasite antigens and molecular mechanisms of host defense. Requirements include a seminar and a research project. Prerequisites: ZOOL 352 and consent of Department.

ZOOL 461 Current Problems in Animal Ecology
★3 (second term, 3-0-0). Credit for this course may be obtained more than once. Prerequisite: ZOOL 231 and a 300-level Biological Sciences course.

ZOOL 464 Limnology
★3 (first term, 3-0-3). Discussion of physical and chemi-cal regimes in lakes, ecology of various aquatic organisms, calculation of hydraulic and chemical budgets, models used in lake management, and lake management prob-lems such as acid rain and eutrophication. Prerequisite: A 300-level Biological Sciences course and consent of Department.

ZOOL 467 Wildlife Conservation
★3 (first term, 3-0-3). Principles and concepts involved in the conservation and management of wild birds and mammals. Prerequisite: ZOOL 306 and 308, (or ZOOL 201), and consent of Department.

ZOOL 468 Problems in Wildlife Conservation
★3 (second term, 3-0-0). A seminar and reading course dealing with current problems in the conservation and management of wild birds and mammals. Prerequisite: ZOOL 467 and consent of Department.

ZOOL 471 Current Problems in Animal Behavior
★3 (second term, 3-0-0). Discussion of topics and problems most characteristic of invertebrate behavior (vertebrate behavior treated in ZOOL 371), such as kineses, taxes, complex orientation, species specific behavior, social phenomena and communication. Pre-requisite: ZOOL 370 or 371. Offered in alternate years.

NEURO 471 Neuroscience I: Cells, Membranes and Molecules
★3 (first term, 3-0-0). Lectures presented by the Faculty of Medicine and the Faculty of Science on excitable membranes, action potential mechanisms, conduction and synaptic mechanisms; factors modifying degeneration, regeneration, development and learning. Prerequisite: PHYSL 310 or PSYCO 275 or ZOOL 241 or ZOOL 242.

ZOOL 472 Current Problems in Behavioral Ecology
★3 (first term, 3-0-0). Discussion of behavioral problems with ecological implications. Prerequisite: ZOOL 370 or 371 or consent of Department.

NEURO 472 Neuroscience II: Systems
★3 (second term, 3-0-0). Lectures presented by the Faculty of Science and the Faculty of Medicine on visual and somatosensory systems, motor control via reflexes and central pattern generators; homeostasis, control of feeding, drinking, temperature and reproduction; neurobehavioral aspects of attention, arousal, cognition, memory and cerebral asymmetry. Prerequisite: PHYSL 310 or PSYCO 275 or ZOOL 241 or equivalent.

ZOOL 474 Projects in Animal Behavior
★3 (second term, 0-1s-4). Individual laboratory projects, and seminars dealing with the project topics, and other areas of behavioral research. Prerequisite: ZOOL 370 or 371.

194.32.3 Honors Courses

ZOOL 420 Seminar in Zoology
★0 (0-1s-0). Note: Strongly recommended for all fourth year Honors and first year graduate students. Prerequi-site: A 300-level Biological Sciences course.

ZOOL 495 Honors Research
★3 (either term, 0-0-6). A means whereby fourth-year students in the Honors program may elect to undertake an individual research project equivalent to three units of course weight term course. Registration in this course will be contingent upon a faculty member agreeing to supervise the project. Successful completion of this course requires an oral presentation on the research project to an examining committee of three staff members of the Department of Zoology. Prerequisite: A 300-level Biological Sciences course. Only open to Honors students.

ZOOL 498 Honors Colloquium
★0 (either term, 0-1s-0). A tutorial course dealing with selected topics in zoology, particularly as represented by the activities of the staff. Recommended for second or third year students. Prerequisite: A 300-level Biologi-cal Sciences course. Only open to Honors students.

ZOOL 499 Honors Research
★6 (0-0-6). A means whereby fourth-year students in the Honors program may elect to undertake an indi-vidual research project equivalent to six units of course weight. Registration in this course will be contingent upon a faculty member agreeing to supervise the project. Successful completion of this course requires an oral presentation on the research project to an examining committee of three staff members of the Department of Zoology. Prerequisite: A 300-level Biological Sciences course. Only open to Honors students.

For graduate courses in zoology refer to §204.83.5 of this Calendar.

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Graduate Studies and Research

The University of Alberta reserves the right to change, without prior notice, the information contained in this publication, including the alteration of fees and schedules and the revision or cancellation of courses.

Faculty of Graduate Studies and Research University of Alberta Directory*

Academic Matters:
FS Chia, Dean
SH Arnold, Associate Dean
JA Kernahan, Associate Dean
GD Prideaux, Associate Dean
PS Pearlstone, Graduate Registrar
HM Hogg, Administrative Officer
2-8 University Hall 492-3499

Admissions, Registration Records, Convocation:
Faculty of Graduate Studies and Research,
2-8 University Hall 492-3499

Change of Faculty, Interest and Aptitude Tests, Personal Problems, Unsatisfactory Standing, Vocation Planning, Withdrawal from the University:
Student Counselling Services,
102 Athabasca Hall 492-5205

Examinations:
Office of the Registrar,
Administration Building 492-5221

Fee Payments:
Office of the Comptroller,
3rd Floor, Administration Building 492-3389

Financial Assistance, Scholarships, and Awards:
Director of Student Awards,
252 Athabasca Hall 492-3495

Native Affairs:
Office of the Advisor on Native Affairs,
124 Athabasca Hall 492-5677

Applications, Programs, and Course Content:
The appropriate department

Student Affairs:
Office of the Dean of Student Services,
234 Athabasca Hall 492-2969

Transcripts:
Office of the Registrar,
Administration Building 492-3113

University Residence and Other Housing:
Director, Housing and Food Services,
44 Lister Hall 492-4281

*The above addresses should contain the suffix:
University of Alberta
Edmonton, Alberta, T6G 2E2.

Please note

(1) Students are responsible for the completeness and accuracy of their application and registration. Please read the Calendar carefully. If you are in doubt about the regulations pertaining to your graduate program, consult the appropriate University official.

(2) The University of Alberta Calendar will be made available to every graduate student at or before registration.

(3) Both the University Calendar and the Calendar of the Faculty of Graduate Studies and Research (also referred to as FGSR) set forth the intention of the University of Alberta at the time of publication with respect to all matters contained therein. **The University reserves the right at any time to deviate from what appears in the Calendar,** either in order to serve the best interests of the University, or because of circumstances or occurrences beyond the University's reasonable control. The University expressly denies responsibility or liability to any person or persons who may suffer loss or who may be otherwise adversely affected by such change.

(4) From September through April the office hours of the University are from 8:30 am to 12 noon and from 1:00 pm to 4:30 pm, Monday through Friday (except holidays). In May, June, July, and August the office hours are from 8:00 am to 4:00 pm, with lunch hour from either 11:30 am to 12:30 pm or 12:00 pm to 1:00 pm. The telephone number for general information is: (403) 492-3111.

(5) University deadlines are set out in the Academic Schedule. Please note that graduate student deadlines may differ from undergraduate student deadlines.

Responsibilities Related to Graduate Programs

(1) **The Student:** Graduate students are ultimately responsible for their own programs. They are expected to read the Calendar and any other relevant documents to become familiar with all regulations and deadlines relating to their programs. The students' fundamental responsibilities include ensuring that their registration is accurate and does not lapse, submitting appropriate forms to the department for signature and processing, and paying all fees required by the deadline dates set out in the Calendar.

(2) **The Supervisor and Supervisory Committee:** The supervisor is directly responsible for the supervision of the student's program. In this capacity, the supervisor assists the student in planning a program; assists in ensuring that the student is aware of all program requirements, degree regulations, and general regulations of the department and the FGSR; provides counsel on all aspects of the program; and stays informed of the student's research activities and progress. The supervisor is also charged with ensuring that students conduct their research in a manner that is as effective, safe, and productive as is possible. The supervisor must prepare a program of studies for the student; arrange for and attend all supervisory committee meetings and the candidate's examinations, ensuring that these are scheduled and held in accordance with FGSR regulations; and must review the thesis both in draft and in final form.

(3) **The Department*:** The department oversees the supervision of all graduate students enrolled in its programs and serves as the chief liaison with the FGSR. It is responsible for ensuring that the student receives proper supervision and that the regulations and requirements of the FGSR are met. The department is responsible for recommending and keeping the FGSR informed of any development in or changes relating to the student's program, including the appointment of the supervisor and supervisory committee members (where applicable) and changes to that membership, change of student status, course and program changes, scheduling of examination dates, etc. The department's Graduate Coordinator is the official representative of the department to its graduate students.

*Note: The term "Department" applies both to a Department and to a non-departmentalized faculty; as well as to an extra-departmental graduate program (PhD in Medical Sciences, MBA, MPM). The term "Department" also refers to the Chair, Graduate Coordinator, Director, or any other individuals officially designated responsible for graduate programs.

(4) **The Faculty of Graduate Studies and Research Office (FGSR):** The FGSR Office is responsible for the general administration of graduate programs, from the admission and registration of graduate students through to convocation. The office houses documentation related to application, admission, programs, course grades, examinations and theses. It is ultimately responsible for the admission of students; for the setting of minimum entrance requirements and minimum academic standing requirements, and for ensuring that these are met; for approving all changes to students' programs and the appointment of supervisors, supervisory committees and examining committees; and for submitting to the Council of the Faculty of Graduate Studies and Research .

(5) **Guidelines for Supervisors and Graduate Students**

a. Guidelines for Supervisors

The Supervisor, with the support of the home department, should:

1) provide an environment for the student that is conducive to research and in which the student can grow intellectually;
2) provide appropriate guidance to the student on the nature of research and the standard expected, and be accessible to give advice and constructive criticism; at the beginning of the supervisory relationship, the student should be made aware of the normal expectations held by the supervisor and the department;
3) with the student establish a realtistic timetable for completion of various phases of the program;
4) consider a graduate student as a "junior colleague in research;"
5) ensure that there are sufficient material and supervisory resources for each graduate student under supervision;
6) work with the student to establish the supervisory committee as soon as possible after the start of the program and ensure that it maintains contact and formally meets at least once a year with the student;
7) when going on leave or an extended period of absence, ensure that the student is adequately supervised by the provision of an acting supervisor (who should be a member of the supervisory committee);
8) ensure that the student is aware of his/her guidelines (as listed below) and, when necessary, assist the student in meeting these;
9) set up committee meetings and examinations after consultation and with full knowledge of the student.

b. Guidelines for Graduate Students

Graduate students should:

1) make themselves aware of the contents of the graduate portions of the Calendar and take responsibility for their own programs in that the Calendar sets out the requirements for the various programs;
2) maintain open communication with their supervisor and Graduate Coordinator concerning any problem either real or perceived;
3) inform the supervisor regularly about progress, and provide the supervisor with an annual report for distribution to the supervisory committee;
4) make research results accessible (beyond their appearance in a thesis) to an appropriate audience;
5) be aware of deadlines for possible scholarship applications, and to seek advice and assistance from the department in making applications, etc.

Faculty of Graduate Studies and Research

1 Introductory

1.1 Officers of the Faculty

ın
Chia, PhD

ociate Deans
Arnold, PhD
Kernahan, PhD
Prideaux, PhD

aduate Registrar
M Pearlstone, MSc

ministrative Officer
Hogg, BA

1.2 Council of the Faculty of Graduate Studies and Research

The Council of the Faculty of Graduate Studies and search is composed of the officers listed above plus ıer members appointed to it by General Faculties ıncil on recommendation of the Dean of the Faculty.

esident and Vice-Chancellor
Davenport, PhD

ce-President (Research)
R James, PhD

air of FGSR Academic Appeal Committee
Prokop AU MA PhD

partmental Representatives
B Konrad, PhD, Adult, Career & Technology Education
S Chanasyk, PhD, Agricultural Engineering
Campenot, PhD, Anatomy and Cell Biology
R Thompson, PhD, Animal Science
Fedigan, PhD, Anthropology
E Snyder, PhD, Applied Sciences in Medicine
Rochfort, PhD, Art and Design
A Bridger, PhD, Biochemistry
RT Dale, PhD, Botany
E Daniel, PhD, Business
T Chuang, PhD, Chemical Engineering
R Kopecky, PhD, Chemistry
E Elwi, PhD, Civil Engineering
J Buck, PhD, Classics
Crown, PhD, Clothing and Textiles
Margolin, PhD, Comparative Literature
Marsland, PhD, Computing Science
A Hargreaves, MChD, AM, Dentistry
Hare, MA, Drama
IK Dastoor, PhD, Economics
W Ratsoy, PhD, Educational Administration
Young, MEd, Educational Foundations
S Fitzsimmons, PhD, Educational Psychology
P Lawson, PhD, Electrical Engineering
RK Jackson, PhD, Elementary Education
RJS Grant, PhD, English
RH Gooding, ScD, Entomology
B Munro, PhD, Family Studies
ME Stiles, PhD, Food Science
ZJ Hawrysh, PhD, Foods and Nutrition
BP Dancik, PhD, Forest Science
D Nash, PhD, Genetics
KJ Fairbairn, PhD, Geography
BE Nesbitt, PhD, Geology
RJ d'Alquen, PhD, Germanic Languages
P Jacobs, PhD, Health Services Administration and Community Medicine
CM Small, DPhil, History
B Singh, PhD, Immunology
AA McLellan, LLM, Law
S Bertram, PhD, Library and Information Studies
JT Hogan, PhD, Linguistics
W Allegretto, PhD, Mathematics
JD Dale, PhD, Mechanical Engineering
DE Taylor, PhD, Medical Microbiology and Infectious Diseases
WA McBlain, PhD, Medicine
MA Pickard, PhD, Microbiology
JM Whiting, PhD, Mining, Metallurgical and Petroleum Engineering
L Ratzlaff, DMA, Music
A Neufeld, PhD, Nursing
HM Madill, PhD, Occupational Therapy
R Stinson, PhD, Pathology
D Schiff, PhD, Paediatrics
PA Smith, PhD, Pharmacology
LI Wiebe, PhD, Pharmacy and Pharmaceutical Sciences
M Tweedale, PhD, Philosophy
RB Wilberg, PhD, Physical Education and Sport Studies
J Wessel, PhD, Physical Therapy
HS Sherif, PhD, Physics
EJ Sanders, PhD, Physiology
JP Tewari, DPhil, Plant Science
TC Pocklington, PhD, Political Science
GB Baker, PhD, Psychiatry
CD Heth, PhD, Psychology
LJ Filipow, PhD, Radiology and Diagnostic Imaging
GS Swinnerton, PhD, Recreation and Leisure Studies
R Thornberry, PhD, Romance Languages
WE Phillips, PhD, Rural Economy
KG Jacknicke, PhD, Secondary Education
TMS Priestly, PhD, Slavic and East European Studies
WD Pierce, PhD, Sociology
WB McGill, PhD, Soil Science
G Holdgrafer, PhD, Speech Pathology and Audiology
D Wiens, PhD, Statistics and Applied Probability
RV Rajotte, PhD, Surgery
WR Kaufman, PhD, Zoology

Registrar of the University
BJ Silzer, MEd

Director of Student Awards
R Chilibeck, BEd

Graduate Student Representatives
S Downes, President, GSA/Philosophy
W Engler, Vice-President (Academic)/Physics
G Germain, Vice-President (Internal)/Sociology

Graduate Students' Association
S Barry, English
J Bottorff, Nursing
C Clement, Family Studies
A Clyburn, Educational Administration
D Farr, Forest Science
M Glasgow, Romance Languages
L Handford, Library and Information Studies
W James, MBA, Business
S Karp, History
G Magnusson, Rural Economy
J Manuel, Physics
K Marsman, Foods and Nutrition
C Merkl, Mechanical Engineering
J Priegert, Anthropology
J Przysiezniak, Zoology
K Ross, Phys Ed and Sports Studies
D Ryland, Chem Engineering
A Werner-Leonard, Sociology
J Wojcicki, Entomology

201.3 Introduction to the University of Alberta

201.3.1 Location

The University of Alberta is located in Edmonton, the capital city of the province of Alberta. Situated in the geographic centre of the province, Edmonton covers an area of 67,951 hectares (263 square miles). It is only a four-hour drive away from the spectacular Rocky Mountains, renowned for their majestic beauty and world-class skiing facilities. Banff and Jasper National Parks feature countless unspoiled wilderness areas ideal for downhill and cross-country skiing, hiking, camping, and fishing.

Located in the heart of "Sunny Alberta", the city of Edmonton has more sunshine than any other major city in Canada. The climate is suitable for a variety of outdoor activities all year round. Spring and autumn are sunny and mild. Summers are warm, with average daily temperatures of 22°C (72°F), although temperatures ranging from 3° - 5°C higher are frequent. Winter is characterized by clear blue skies and low humidity. Days are cold and crisp with average temperatures reaching a high of -10°C (14°F) in midwinter. The annual snowfall is 130 centimetres (51 inches).

A city with a cosmopolitan flavour, Edmonton has a wealth of different cultural and ethnic backgrounds which diversify and enrich its music, dining and entertainment. The city has many fine parks and recreation areas. Such amenities and attractions as numerous theatres, a symphony orchestra, an opera society, art galleries, museums, professional athletic teams, and a space sciences centre provide a variety of entertainment.

201.3.2 The Campus

The University of Alberta central campus is situated on the south bank of the North Saskatchewan River. Its location offers a scenic view of the Edmonton skyline and convenient access to the city centre.

Founded in 1908 with five faculty members, 45 students and one building, the University has seen dramatic growth over the past 80 years. Student enrollment now stands at close to 30,000 (with over 100 different countries represented in the student population), while faculty and support staff number more than 7,000. The central campus covers an area of 87 hectares (216 acres), with off-campus student housing, a bilingual campus, the Edmonton Research Station (or "University Farm"), and other facilities occupying an additional 572 hectares (1,414 acres) of city land. Outside Edmonton, the University of Alberta owns or leases a further 3,554 hectares (8,775 acres).

The University currently houses 18 faculties. It has affiliations with six colleges (two of which are on campus) and is associated with numerous organizations including the Alberta Research Council, the Northern Health Services Program, the Provincial Laboratory of Public Health, the University of Alberta Hospitals, and the Western Board of Music. In addition, the University supports more than 88 research centres and institutes.

201.3.3 General Information

Graduate work has been offered at the University of Alberta since its inception in 1908. The present organization of the Faculty of Graduate Studies and Research (FGSR), headed by a Dean, was adopted in 1957.

The Faculty of Graduate Studies and Research office is primarily responsible for the general administration of graduate programs. Officers of the Faculty, in conjunction with the Faculty Council, develop and implement appropriate regulations and operating procedures. In its administrative capacity, the FGSR is responsible for approving applications for admission and programs of study, for certifying the satisfactory completion of each student's program prior to graduation, and for maintaining the academic records of all students registered in the Faculty. The Faculty also coordinates in whole or in part some functions involving several faculties.

Two categories of graduate degree programs are offered at the University of Alberta—doctoral and master's. In addition, the Faculty offers postgraduate diploma programs designed to provide an opportunity for individuals to take a sequence of courses to increase their knowledge of a specialized area without needing to enrol in a degree program. The specific programs offered in each category are listed below.

Doctoral Degrees
Doctor of Education (EdD)
Doctor of Music (DMus)
Doctor of Philosophy (PhD)

Master's Degrees
Master of Agriculture (MAg)
Master of Arts (MA)
Master of Business Administration (MBA)
Master of Education (MEd)
Master of Engineering (MEng)
Master of Fine Arts (MFA)
Master of Health Services Administration (MHSA)
Master of Laws (LLM)
Master of Library and Information Studies (MLIS)
Master of Music (MMus)
Master of Nursing (MN)
Master of Pharmacy (MPharm)
Master of Public Management (MPM)
Master of Science (MSc)
Master of Visual Arts (MVA)

Postgraduate Diplomas
Postgraduate Diploma in Educational Administration
Postgraduate Diploma in Exploration Geology
Postgraduate Diploma in Health Services Administration
Postgraduate Diploma in Law
Postgraduate Diploma in Textile Conservation and Curatorship

General regulations, applicable to all graduate students, are set out in §202. Special regulations, applicable to those in a particular degree program, are set out in §203. Inquiries concerning general regulations should be directed to the Faculty of Graduate Studies and Research, 2-8 University Hall, University of Alberta, Edmonton, Alberta, T6G 2J9.

201.3.4 Information for Foreign Students

Foreign students (i.e., neither Canadian citizens nor permanent residents) studying in Canada require a **Student Authorization** from the Canada Employment and Immigration Commission. Some students will also require a visa. Student Authorizations and Visas must be obtained **before coming to Canada** — they cannot be issued here.

While it is not possible to obtain a Student Authorization until an official letter of acceptance from the Faculty of Graduate Studies and Research has been issued, students are advised to begin the procedures necessary to secure admission to Canada and to complete the documentation required by the Canada Employment and Immigration Commission as soon as possible after submitting an application for admission to the FGSR. Information on immigration regulations is available from Canadian embassies, high commissions and British consular offices. Immigration officials in these offices will be able to give advice and help.

The Faculty of Graduate Studies and Research *Application for Admission* form also contains information of interest to foreign applicants. On acceptance to the University of Alberta, a pamphlet entitled *Preparing for your Departure* is sent to students along with their official admission letter. The International Centre conducts orientation seminars and assists students after they arrive in Canada.

201.4 Fees

The University of Alberta's fees policies and procedures are discussed in §15.2. of the Calendar. Information related specifically to fees for graduate students is found in §15.2.2. Individuals seeking fees information should consult these sections.

201.5 Financial Assistance

Financial assistance is available to graduate students through various sources.

Graduate Awards (scholarships, fellowships, etc.) are available by competition to superior scholars under a variety of categories. See §224 for a full listing of awards available to graduate students at the University of Alberta.

Graduate Assistantships which involve teaching and/or research duties, are administered according to a central policy of the University of Alberta. They are awarded primarily on the basis of academic standing and ability to perform the required duties. Students who are interested in applying for an assistantship should consult the department in which they plan to pursue a program of studies. Most departments suggest that students apply by March 1 before the Winter Session (beginning in September) in which the applicant hopes to receive an assistantship. Full-time assistantships require the equivalent of 12 hours of work per week over the term of appointment. Part-time assistantships are given in some departments. The rate of remuneration for a full-time assistantship (1990/91 rates) is from $3,759 to $5,671 for a four-month term. More detailed information can be found in the publication *Regulations Governing Graduate Assistantships* available from the FGSR. Foreign students are reminded that they are not eligible for graduate assistantships unless they obtain both a Student Authorization and an Employment Authorization from Employment and Immigration Canada. These authorizations must be renewed as required and evidence of renewal must be sent immediately to the Payroll Division, Office of the Comptroller.

Research Grant Support may be available to certain students from research grants made to departments or staff members. The amount of support will vary with the nature of the research grant and the regulations of the granting agency.

Demonstrators and Markers are individuals who are hired on an hourly basis to carry out duties to assist a department's teaching program. They may be assigned duties similar to some of those performed by graduate assistants. Qualified graduate students should be first considered by departments for appointments as graduate assistants. Only those graduate students who are not awarded graduate assistantships in accordance with written University and department selection procedures should subsequently be considered for appointment as demonstrators and markers.

Assistance is available to some students in the form of **loans** through the Province of Alberta and through the Canada Student Loans Plan. To be eligible for a Canada Student Loan applicants must: (1) be Canadian citizens or have Permanent Resident (Landed Immigrant) status; (2) have lived in Canada for at least one year; and (3) state an intention to live in Canada after graduation. Further information concerning loans can be obtained from the Office of Student Awards.

General information on regulations governing assistantships, fellowships, and awards at the University of Alberta may be found in §228.2.

202 Regulations of the Faculty of Graduate Studies and Research

The general Faculty regulations outlined below apply to **all graduate students**. Faculty regulations specific to particular degree programs are found under the appropriate program heading in §204.

202.1 Application

The University of Alberta may at its discretion refuse admission to any applicant.

All documents submitted to the Faculty of Graduate Studies and Research must be in English and (where applicable) in the original language in which they were written. Documents submitted in support of an application become the property of the FGSR and will not subsequently be released or copied except to other University of Alberta offices.

Letters of recommendation are considered to be confidential. Students may be permitted to look at the contents of their files in the presence of the Dean, FGSR, but will not be permitted to see their letters of recommendation.

At the students' request documents in their file will be made accessible to certain university officials. The FGSR will release photocopies regarding a student's previous education where the information is needed for scholarship purposes for attendance at the University of Alberta.

202.1.1 Degree and Postgraduate Diploma Applicants

Application for admission to the Faculty of Graduate Studies and Research must be made directly to the chair of the department in which the student wishes to pursue a program of studies. Applicants must use the official FGSR "Application for Admission" form provided to them by the department.

Application Deadlines: Application deadlines are set by many departments. Applicants should consult the department for deadline dates. Students are encouraged to make contacts and enquiries well in advance of the admission deadline to maximize consideration for admission. Completed applications for admission and supporting documents from foreign students should reach departmental offices at least two months in advance of their deadline dates so that immigration authorizations can be obtained in time for arrival prior to the commencement of the term.

An applicant must arrange to have forwarded direct to the department concerned official or certified true transcripts or marksheets and degree certificates from all institutions attended other than the University of Alberta. The FGSR or the department may require the applicant to furnish an official description of the content of any or all courses listed on the transcripts. Letters of recommendation and other documents may also be required. Applicants should refer to the information attached to the "Application for Admission" forms and consult the department prior to applying. There is no application fee.

Application documents are compiled and reviewed by the department, which makes a recommendation to the Faculty of Graduate Studies and Research as to the student's admissibility according to departmental standards.

A final assessment is done and a decision regard admission is reached by the Faculty of Graduate Stud and Research.

Applicants are notified as soon as possible of FGSR's decision regarding their admission. Admiss to the Faculty of Graduate Studies and Research is v only for the session indicated. If circumstances prev a student from registering for that session the FG reserves the right to reconsider the application admission.

202.1.2 Special and Visiting Applicants

Application for admission as a special or visi graduate student must be made direct to the Faculty Graduate Studies and Research. Applicants must the official "Application for Admission" form provided them by the FGSR. Applications **must be received** in FGSR by the deadline dates indicated below. Applicatio received after the deadline dates cannot be considere

Winter Session:
First Term: August 1
Second Term: December 1
Intersession:
Spring Term: April 1
Summer Term: June 1

Prior to these dates an applicant must arrange have forwarded direct to the Faculty of Graduate Studi and Research official or certified true transcripts marksheets and degree certificates from all institutio attended other than the University of Alberta. The FGS may require the applicant to furnish an official descripti of the content of any or all courses listed on t transcripts. Letters of recommendation and other docume in support of the application for admission may also b required. Applicants should refer to the informati attached to the application forms for a list of addition documentation required. There is no application fee.

202.2 Admission

Individuals seeking admission should acquai themselves with the University of Alberta Code of Applica Behavior (§13.11 of the University Calendar).

The **minimum** requirements for admission to th Faculty of Graduate Studies and Research as a graduat student are outlined below. Some departments impos additional admission requirements. **Even though a applicant may appear to satisfy the general admissio requirements, acceptance into a graduate progra is not guaranteed.**

202.2.1 Academic Requirements

(1) Applicants to the Faculty of Graduate Studies an Research must have obtained a University of Alber baccalaureate degree or its academic equivale from this or another recognized academic institutio The grade point average obtained during the las 60 units of course weight of undergraduate (o graduate) study must be at least 6.5* on the 9-poi grading scale used at the University of Alberta or a equivalent standing from another recognized institutio (see below).

Equivalent Qualifications:
Grading systems differ widely in variou countries. Experience with these systems over th years indicates that to give reasonable assurance o success in a graduate program at the University o Alberta, applicants must have an academic backgroun at least equal to one of the equivalent qualification below:
Canadian Universities - GPA of 6.5 out of a possibl 9 on the University of Alberta marking system, or 3 (on most 4-point systems), or 72%, or a B (secon class) standing, or equivalent in the work of the las two full years of previous degrees.
Egypt - an Honors degree with a standing of at leas "Very Good" (80%).
India, Pakistan, and Bangladesh — First Class o First Division bachelor's degree. (Some departments require **both** a First Class bachelor's and a Firs Class master's degree.)
Japan - at least 2.3 out of 3 or 3.0 out of 4.
People's Republic of China - 80% or 4 out of 5.
Taiwan — an "A" average (usually 80% or better).
United Kingdom, Hong Kong, Australia, New Zealand and other Commonwealth countries whose university systems follow that of Great Britain — an Upper Second Class Honors degree.
United States of America — a "B" average (at least 3.0 on a 4-point scale or the equivalent in other systems)

Applicants for graduate studies must be recommended for admission to the FGSR by the chair (or designate) of the department to which they are applying, who indicates that the applicant is in all respects acceptable to the department. Special graduate students and visiting graduate students, not being candidates for a degree or postgraduate diploma, do not require departmental recommendation for admission.

otes: (1) Failing marks and re-examination marks included in the GPA calculation. (2) Individual partments may require a higher average. Consult appropriate departmental information in §204.

02.2.2 English Language Requirement

Since English is the primary language of instruction d communication at the University of Alberta, proficiency English is a prerequisite for graduate admission. erefore, all applicants who do not hold a baccalaureate gree or its academic equivalent from a recognized stitution in which the language of instruction is English a country where English is deemed to be the principal nguage MUST obtain a satisfactory score on an approved nglish language examination before they can be admitted. otwithstanding the above, departments and the FGSR serve the right to require a demonstration of English nguage proficiency.

The FGSR recognizes two English language caminations—the Test of English as a Foreign Language OEFL) and the Michigan English Language Assessment attery (MELAB).

All applicants who are required to write the English nguage examination are advised to do so at an early ate because a satisfactory score (at least 550 on OEFL, 85 on MELAB) is required **before the FGSR will sue an official admission approval letter**. Canadian mmigration authorities will not issue a Student Authorization ermitting entry into Canada until they have proof that ne student has received an official admission approval tter from the FGSR. Applicants should arrange for their nglish language test results to be sent direct to the epartment (or to the FGSR for special graduate applicants).

For further information on the English language xamination write to:

TOEFL Services
CN 6151
Princeton, New Jersey 08541-6151
U.S.A.

OR

The Director
Testing and Certification Division
English Language Institute
University of Michigan
Ann Arbor, Michigan 48104
U.S.A.

(Minimum acceptable TOEFL score: 550)
(Minimum acceptable Michigan score: 85)

The above are **minimum scores** acceptable for admission to the FGSR. Individual departments may equire higher scores. Consult the appropriate departmental nformation in §204.

202.2.3 University of Alberta Staff as Graduate Students

University of Alberta staff may be recommended and considered for admission to graduate programs provided FGSR has reviewed the case and established that conflict of interest between the candidate's role as staff member and as graduate student will be absent or minimal.

Guidelines are available from the FGSR. Any department wishing to recommend admission of a University staff member to a graduate program should first consult with the Dean, FGSR.

202.3 Registration

Students are responsible for the completeness and accuracy of their registration. They are also responsible for adjustments in registration.

All students in graduate degree programs **must register once a year** to keep their program active. This registration entitles students to the use of certain University facilities and to assistance from their supervisors for a 12-month period. Students in thesis degree programs must be registered in "THESIS" in their last registration prior to their convocation. Registration during the final year of the program permits the student to graduate at either of the two following convocations.

Students who fail to register at least once a year will be considered to have withdrawn from their program. If they wish to resume work on the program, they must apply for re-admission and have their program re-assessed in terms of the regulations in force at the time of re-application. There is no guarantee of re-admission. If a student is recommended for re-admission, a re-admission fee will be charged in addition to the fees assessed in the regular manner.

Students who are not Canadian citizens or permanent residents should register in the equivalent of at least nine units of course weight per term in order to be eligible for full-time registration status in both terms of the Winter Session (see §202.3.2); failure to do so may jeopardize the student's status with the Canada Employment and Immigration Commission.

202.3.1 Registration Status

A student's registration status is determined by the total units of course weight (including a directed research project or a thesis where appropriate) in which the student is registered in a given term. Assignment of the registration status is explained below.

Full-Time Registration: These students are registered in the equivalent of **nine units of course weight or more** per term and are working full time on their academic program in that term.

If the full-time student is geographically available to campus, visits it regularly, and makes regular use of the University's resources, then the time so spent may be applied toward the residence requirement for the degree (see §202.6).

Part-Time Registration: These students are registered in the equivalent of **less than nine units of course weight** per term. (Auditing courses does not affect the student's status.) This generally means that more than 12 hours per week of working time is devoted to matters other than the academic program. The period in which a student is registered as part-time cannot be applied toward the residence requirement of a degree program.

Project only: Students registered only in *PROJECT* are assigned part-time registration status.

Continuous Registration: These students are not registered in any courses in a given term and are not working on their thesis or project but wish to maintain their status as graduate students.

202.3.2 Registration Procedure

Newly admitted and continuing graduate students in degree programs register using the Telephone Registration System. Registration information and materials are provided by the department **after** students arrive in Edmonton. Special and Visiting graduate students are not permitted to register by telephone. These students must come to the Faculty of Graduate Studies and Research office to complete their registration.

In order to register at the University of Alberta, graduate students must:

(1) **Consult and Receive Counselling**
from their supervisor and department.

(2) **Register**

(3) **Confirm Registration**
by claiming their Class Timetable Notice.

The following is an elaboration of these three steps for registration.

Step 1. Consult and Receive Counselling

All graduate students in degree programs in the Faculty of Graduate Studies and Research must consult with their department and discuss their program with their supervisor prior to registering. Students should contact their supervisor or department to set an appointment.

Please Note: Supervisors may not always be available during the May through August period.

If coursework is necessary, supervisors will assist students in selecting the courses required for the graduate program. Students registering in thesis should discuss this with their department and supervisor.

There are two types of thesis registration, denoting full- and part-time status. The thesis registration selected will depend upon the amount of time during the term(s) that the student will devote to work on the thesis.

For **Full-time** Registration in Thesis:

THES 999	THE C1 (-C5)	Both terms
	THE A1	Term 1
	THE B1	Term 2

For **Part-time** Registration in Thesis:

THES 900	THE C1 (-C5)	Both terms
	THE A1	Term 1
	THE B1	Term 2

Therefore, to register **full-time** in a thesis program, for both terms of the Winter Session, students should register in THES 999 THE C1 (or if full-time for a single term, either THES 999 THE A1 or B1 as appropriate).

Research Project Registration for students in the course-based Masters route involves registering in the appropriate 900-level course. Consult the department course listings in the Calendar for the appropriate section.

** Students **should not register** prior to program counselling **

Step 2. Register

Once newly-admitted and continuing graduate students in degree programs have met with their supervisors and determined their program requirements, they pick up registration materials from their departments and register using the Telephone Registration System. Students are responsible for the completeness and accuracy of their registration.

The Telephone Registration System cannot be used for the following:

(1) **Audited Courses**: All graduate students (excluding Special graduate students) who are registered full-time or part-time may seek permission to audit a course. Special graduate students are **not permitted** to audit courses. Since permission to audit cannot officially be granted until the number of students registered for credit is known, students will not be allowed to register for audit until after classes close for registration for credit (after the sixth day of class in Winter Sesison).

To add a course for audit students must:

a. complete a "Change to Audit Status/Withdrawal" form available from the department or FGSR office;

b. have it signed by
   1) the instructor of the course and
   2) the Graduate Coordinator or Department Chair; and

c. submit the form to FGSR for approval and processing.

Students who wish to change their status in a course from credit to audit must first consult with their supervisor or program adviser. If permission is granted, a "Change to Audit Status/Withdrawal" form must be signed and submitted to the FGSR office as outlined in the preceding paragraph. Deadlines for submitting such a change are found in the Academic Schedule.

Audited courses will not be considered as meeting prerequisite, admission, or course requirements for any University of Alberta degree or diploma program. For further information on auditor status refer to §12.2.5 of the University Calendar.

(2) **Courses "Extra to Degree Program"**
To designate a course as Extra (+), students must:

a. complete an *Extra to Degree* form available from the FGSR;

b. have it signed by the Graduate Coordinator or Department Chair; and

c. submit the form to the FGSR for approval and processing.

(3) **Courses taken toward Doctoral program requirements**
Students who are **still** candidates for a Masters degree cannot use the Telephone Registration System to register in courses toward their Doctoral program requirements. (A reminder: such Doctoral level courses may be taken for **one Winter Session only** by Masters degree candidates.) Students must:

a. complete an *Extra to Degree* form available from the FGSR;

b. have it signed by the Graduate Coordinator or Department Chair; and

c. submit the form to the FGSR for approval and processing.

(4) **Registration in more than one degree program**
The Telephone Registration System can only be used to register in one degree program. Once one registration has been completed, any further attempt to register via the telephone will solicit a response that the previous registration must be cancelled before a second program registration will be permitted. Students who have been approved to register in more than one program (e.g., PGME students also completing a graduate program) must contact the FGSR office for assistance in registering in the Graduate Studies degree program.

(5) **Continuous Registration**
Students who do not wish to register in any courses per term and are not working on thesis or project research, but do wish to maintain their graduate student status must:

a. complete a manual registration form available from the FGSR. In the section *Courses You Wish to Take*, students should indicate *Continuous Registration* only;

b. have the form signed by the Graduate Coordinator or Department Chair; and

c. submit the form to FGSR for approval and processing.

(6) **Registration as an Extramural student, or late registration**
Students must contact the FGSR office.

Step 3. Confirm Registration
Please note that **all** students who register, including: Special and Visiting Graduate students; students registered in courses for credit and/or audit; and students registered in Thesis, research projects, or *Continuous Registration* only **must officially confirm** their registration by claiming the *Class Timetable Notice*. Students who fail to do so will have their registrations cancelled. The Class Timetable Notice includes a listing of the registration (courses and/or thesis, project, continuous registration), the I.D./Library card, and a fee assessment.

202.3.3 Re-Registration in Courses

(1) Students may not repeat any University course passed or courses for which they have received transfer credit except for reasons deemed sufficient, and verified in writing, by the dean of the faculty in which they are enroled.

(2) Students may not **re-register for credit or audit** more than once **in any failed University course, except for reasons deemed sufficient by the Dean (or designate) of the Faculty** in which they are enroled.

(3) Students may not **re-register for credit or audit** more than once **in any University course in which they have received a final grade of W, except for reasons deemed sufficient by the Dean (or designate) of the Faculty** in which they are enroled.

(4) In cases where a student contravenes regulations **1, 2 or 3 above**, the Dean (or designate) may withhold credit or indicate the course as extra to the degree on the course registration that contravenes the regulation.

(5) Students may repeat a first-term course in the second term if it is offered in the second term, as long as the student complies with regulations 1, 2 and 3 above.

(6) Withdrawals recorded on a student's record prior to September 1, 1988 would **not** be included in that re-registration count.

(7) Students are responsible for monitoring the number of times they have repeated a course.

202.3.4 Changes to Registration

If students wish to make changes to their registration in any of the following cases, they must first consult the department in which they are registered. Students should then make changes to their registration for all unrestricted courses through the Telephone Registration System during the period that it is available for a particular session or term. They can:

(1) drop courses

(2) add courses

(3) cancel their entire registration.

The Telephone Registration System is available for registration changes as follows:

WINTER SESSION
For first-term and full-session courses, the Telephone Registration System should be used until 1630 hours of the fifth day of classes in September. For second-term courses, the Telephone Registration System should be used until 1630 hours on the fifth day of classes in January.

INTERESSION
For first-term and full-session courses, the Telephone Registration System should be used until 1630 hours of the second day of the session. For second-term courses, the Telephone Registration System should be used until 1630 hours of the second day of the **Summer term of the session.**

After the close of telephone registration in a particular term or session, any changes to a graduate student's registration require the approval of the student's Department Chair or Graduate Coordinator and the FGSR. After the close of telephone registration, a "Change to Audit Status/Withdrawal" form must be used for the following registration changes:

(1) Withdrawal from courses

(2) Withdrawal from program

(3) Changes from credit to audit (see §202.3.3)

(4) Changes of course section.

Such changes of registration, once approved by the student's department, must be received by the FGSR no later than the deadline dates found in the Academic Schedule. **No credit will be given for any course** unless it is included in the student's registration.

Notes:

(1) Students who withdraw from any first-term or full-session course(s) in the Winter Session on or after September 14 will have the course(s) recorded on their transcript as a withdrawal (W). Similarly, students who withdraw from any second-term course(s) on or after January 10 will have the course(s) recorded on their transcript as a withdrawal (W).

(2) Students who withdraw from any Spring-term or full-session course(s) in the Intersession on or after the third day of the session will have the course(s) recorded on their transcript as a withdrawal (W). Similarly, students who withdraw from any Summer-term course(s) on or after the third day of the Summer term of the session will have the course(s) recorded on their transcript as a withdrawal (W).

(3) FGSR deadline dates may differ from undergraduate deadline dates (consult the Academic Schedule).

Change of Personal Information:
Personal information, such as name and address, is recorded at the time of initial application. It is the student's responsibility to inform the University of any change in this information by completing a *Change of Personal Information or Program Data* form, available from the FGSR or the Registrar's Office. Students should deposit the completed form at either of the two offices to ensure that the change is noted on all their records at the University of Alberta.

202.3.5 Cancellation of Registration

Students in the Faculty of Graduate Studies and Research who wish to withdraw from courses, from a session, or from their program should complete a *Change to Audit Status/Withdrawal* form. For students in degree or in diploma programs, this form must then be signed/authorized by their department and submitted to the FGSR for approval. Students who withdraw without completing such a form **are not eligible for any refund of fees**, nor for exemption from fees in the event that they have not been paid.

A fee adjustment is made, and refunds authorized, in accordance with the table published in §15.2 of the University Calendar. The date used for the purpose of calculating the refund is the date on which the withdrawal is approved by the Faculty of Graduate Studies and Research.

If after withdrawing from a graduate program students wish to apply again for admission, their application will be considered in the current competition for places with all other applicants. See also §§15.2.6 and 16.9.3.

202.4 Classification of Graduate Students

The classification of students is generally determined upon admission to a program on the basis of the student's previous academic background. Graduate students at the University of Alberta are classified as one of the following:

(1) **Qualifying graduate students.** Such students are those whose academic background entitles them to serious consideration for admission to graduate studies but who are considered to be inadequately prepared to enter a graduate program in the subject area they have chosen. Generally, students who hold a three-year bachelor's degree from the Univers of Alberta (or an equivalent qualification from sor other recognized institution) and students who ha graduated from a four-year degree program, t who are **entering a new field**, may be admitted qualifying graduate students.
Qualifying graduate students are registered the FGSR and as such are subject to the regulatio of the FGSR; however, qualifying students are n considered to be candidates for a degree.
Students who are not eligible for admission the Faculty of Graduate Studies and Research qualifying students should consult the appropria undergraduate faculty regarding admission to th faculty to clear course deficiencies. They may app for admission to the FGSR at a later date.
Normally, a qualifying period will not exce five full course equivalents (30 units of cours weight) . Courses taken during a qualifying perio will be prescribed by the department concerne Completion of the work in a qualifying period do not automatically entitle the student to proce toward a degree program. However, upon satisfacto completion of a qualifying period the departme may recommend to the FGSR that the student b reclassified as one of the following: probationa graduate student, candidate for a master's degre or provisional candidate for a doctoral degree. Studen should note that neither the courses taken nor th fees paid during a qualifying period will be credite toward a subsequent degree program.

(2) **Probationary graduate students.** Such students ar those whose academic record is either (i) difficult t assess, as in the case of some foreign students; o (ii) below the standard normally required by department, where the department's minimur requirements are above those of the FGSR. **(Note** Probationary graduate students must meet th admission requirements of the Faculty of Graduat Studies and Research.) Upon completion of a specifie period, normally not to exceed one academic yea (September - April), probationary graduate student who have proved their competence to the satisfactio of the department and the FGSR may be accepte as candidates for a master's degree or as provisiona candidates for a doctoral degree. If it is recommende by the department and approved by the FGSR students may have any or all courses complete during their probationary year credited toward graduate degree. Each application of this nature wil be considered on its individual merits.

(3) **Candidates for a master's degree (Category A)** Such students are those who are graduates of a four-year university degree program (equivalent to an Honors degree or degree with specialization from the University of Alberta) and who are continuing in the same field of study.

(4) **Candidates for a master's degree (Category B).** Such students are those who are graduates of a four-year university degree program having some senior courses relevant to the new field, but specializing for the first time. These students are thus required to take additional courses; however, they are not required to take a qualifying year.

(5) **Provisional candidates for a doctoral degree.** All PhD, EdD, and DMus students are first admitted as provisional candidates; they are reclassified as candidates only when they have met certain requirements outlined in the special regulations for the relevant degree (see §203). Candidates who hold a master's degree and are continuing in the same field of study normally enter a two-year program, whereas candidates who hold a baccalaureate degree with honors will enter a three-year doctoral program.

(6) **Candidates for a doctoral degree.** Upon satisfactory completion of the candidacy examination all provisional doctoral candidates are reclassified as candidates for a doctoral degree.

(7) **Candidates for a postgraduate diploma.** Such students must meet the general admission requirements of the Faculty of Graduate Studies and Research (§202.2). The postgraduate diploma program is a specialized program designed for persons who have had previous work experience. It can normally be completed in one academic year of full-time study.

(8) **Special graduate students.** Such students are those who in every respect are eligible for admission to the Faculty of Graduate Studies and Research, but who wish to take graduate level courses for credit without proceeding toward an advanced degree at the University of Alberta.

Special graduate students are not candidates for a degree at this University and will not receive any residence or fee credit toward a subsequent degree program for the work completed as a special graduate student. In addition, the number of courses allowable for transfer credit may be limited (see §202.5).

Admission as a special graduate student does not imply eligibility for admission to a degree program in any department.

Individuals who wish to study under this classification must apply to the Faculty of Graduate Studies and Research and be admitted each year in which they take courses.

Special graduate students require written permission from the department concerned to register in a course. They are not permitted to take courses for audit.

Only graduate level courses may be taken by special graduate students. Individuals wishing to take courses at undergraduate levels should contact the appropriate faculty regarding registration as a special student in that faculty.

Visiting graduate students. This category is used for students who are registered in a degree program at another university or college, who have obtained written permission in advance from the home and host institutions to take one or more courses for transfer of credit toward that degree program. Visiting students are not permitted to register in Thesis or departmental project courses.

202.5 Transfer Credit and Credit by Special Assessment

Transfer credit for certain courses may be granted by the Faculty of Graduate Studies and Research in special cases, provided that the courses have not been counted toward a previous degree or program and were not used to satisfy admission requirements of the FGSR. However, students should note that they cannot apply for this; the department must petition the FGSR on the student's behalf. Transfer credit is granted at the discretion of the Faculty of Graduate Studies and Research, but no more than six units of course weight taken as a Special Diploma student will be eligible for transfer credit(s) to any course-based master's degree program.

The Faculty of Graduate Studies and Research does not accept credit by special assessment.

202.6 Residence Requirement

Residence is an essential component of many graduate degree programs. The purpose of residence is to encourage students to gain insight and intellectual stimulation through direct contact with the University environment, faculty members and other students.

To fulfill a residence requirement students must be registered full-time for the period of residence specified, enabling them to participate fully in on-campus activities related to their degree program.

Minimum periods of residence are:

Master's degree programs: two (four-month) terms*
Doctoral degree programs: two academic years*
Postgraduate diploma programs: Consult department.

*For purposes of residence, a term is defined as Fall (September-December) or Winter (January-April). An academic year is defined as the eight-month period from September to April.

Note: Many master's programs have modified or no residence requirements. Consult the department listing for program details.

202.7 Language Requirement

It is a program requirement in some departments that students show proof of proficiency in one or more languages other than English. (For information on specific language requirements see the detailed program information under the appropriate departmental entry in §204.)

Language proficiency is recorded on the student's transcript if **one** of the following is presented:

(1) Proof of credit in the language course specified.

(2) Documentation from an appropriate language department attesting to satisfactory proficiency at a level set by that department.

It is the responsibility of the department in which the student is undertaking the graduate degree program to complete and forward to the FGSR for approval a "Notice of Completion of Language Requirement" form.

202.8 Academic Standing

202.8.1 Explanation of Grading System

The University of Alberta uses a nine-point grading system for most courses. For students registered in the Faculty of Graduate Studies and Research the normal passing grade is 6 (see §202.8.2 below). In addition, some courses are offered on a credit/fail basis.

The grade distribution according to the 9-point system is as follows:

Course Grades Obtained by Graduate Students

	9	Excellent
	8	
	7	Good
Pass	6	Satisfactory (see §202.8.2)
Fail	5	Unsatisfactory (see §202.8.2)
	4	
	3	
	2	
	1	

202.8.2 Minimum Faculty Requirements

Regardless of the student's category, the pass mark in **any course** taken while registered in the Faculty of Graduate Studies and Research is a grade of 6.

All students in degree programs (including time spent as a qualifying graduate student) or diploma programs must maintain a minimum cumulative program grade point average of 6.5 throughout the course of the program. (In cases where the cumulative program grade point average falls between 6.0 and 6.5, departments may recommend continuation in the program for a specified period as a probationary student; in any case, convocation may not take place with a cumulative program grade point average of less than 6.5.)

Students should keep in mind that courses are weighted differently. A grade of 8 and another of 6 will give an average of less than 7 if the 6 is received in a course carrying greater weight.

Note: The above are minimum grades and grade point averages acceptable to the Faculty of Graduate Studies and Research. Individual departments may require higher grades than these.

202.8.3 Failure in or Failure to Complete a Course

Satisfactory performance in the course work component of a graduate program entails completion of all courses taken as part of the student's program requirements (i.e., courses designated as extra to the student's program requirements and audited courses are excluded). Normally, the minimum acceptable passing grade in individual courses is 6 (see §202.8.2 above); however, some departments may require higher grades.

Graduate students are not permitted to take re-examinations. Regardless of their category, students who do not obtain an acceptable grade, or fail to complete a course that is required as part of their graduate program, must have the approval of the department and the FGSR to retake the course and must obtain a passing grade. Alternatively, students may take an alternate course recommended by the department and approved by the FGSR, but they must also obtain a passing grade.

In calculating a student's GPA, both the original failing grade and the grade received when the course is retaken or the alternate taken will be used. The failing grade AND the grade achieved for the repeated or substitute course will appear on the student's transcript. Alphabetical grades of ABF, WF, DB and INF are counted as numeric grades of one in the computation of the GPA.

A student whose work is unsatisfactory may at any time be required to withdraw.

202.9 Supervision

Every student in a program leading to a graduate degree is required to have a supervisor. Ideally, the supervisor should be appointed as soon as the student arrives to begin the program. If this is not possible due to the organization of the department's program, an interim supervisor or advisor may be appointed until the permanent supervisor is assigned. In any case, the permanent super- visor must be approved by the FGSR within the first 12 months of the student's program.

In all doctoral programs, and in some master's degree programs (where required by departments), students must also have a supervisory committee.

The Dean of FGSR is ultimately responsible for approving the appointment of supervisors and supervisory committee members.

The members of the supervisory committee for doctoral students should be appointed before the second year of the student's provisional doctoral program and well in advance of the candidacy examination. The committee shall consist of at least three faculty members who shall normally be full time and be appointed by the Faculty of Graduate Studies and Research, based on recommendations from the department concerned. The chair of the committee shall be the faculty member under whose supervision the student is carrying out the dissertation research. Where appropriate, one or more members of the committee may be chosen from a department other than that in which the research is being carried out.

The committee for a student in a master's program should be appointed in accordance with departmental regulations; its function is to provide guidance on the student's thesis research.

The department should ensure that the members of a supervisory committee are sufficiently competent and experienced to serve at the required level. In forming a supervisory committee the department should consider the rank and experience of the prospective members, their publications and other demonstrations of competence in the field of specialization, and the prospective members' experience in graduate supervision.

As minimum criteria, supervisors (and normally members of supervisory committees) must:

(a) be active in the general area of the student's research;

(b) have a tenured (or tenure track) faculty appointment (including soft tenure track faculty appointments such as University Research Fellows and Heritage Scholars) in a department relevant to the field;

(c) hold a degree equivalent to or higher than that for which the student is a candidate. (This would always be the case for newly appointed faculty, but certain recognized and well-established exceptions should be respected.);

(d) demonstrate continuing scholarly or creative activity of an original nature.

Scholarly or Creative Activity

Because of diverse interpretations of the term "scholarly or creative activity," the Faculty will always find it necessary to rely on sound and informed judgement of Chairs and Graduate Coordinators to ensure adherence to minimum Faculty criteria.

Additional criteria approved by the Dean, FGSR, may be added by individual departments, and these should be included in departmental graduate handbooks.

The determination of "scholarly or creative activity" assumes a continuing peer review process which, at least indirectly, is included annually at the appropriate Faculty Salaries and Promotions Committee. Thus, the following list summarizes criteria used by various faculties to describe scholarly or creative activity:

- publication of research papers in refereed journals
- publication of research papers in journals acceptable to the discipline
- publication of books and/or monographs
- publication of research findings in conference proceedings
- publication and/or performance of new compositions or plays
- exhibition of new artistic works
- peer recognition of outstanding professional practice
- invitations to speak at conferences or at other institutions
- editorial or refereeing responsibilities for journals
- invitations to serve as external examiner for the PhD
- presentations at professional society meetings or workshops
- invitations to review grant proposals or manuscripts
- invitations to referee requests for promotions to full professor in recognized institutions

It is recommended that department Chairs monitor and review the performance of supervisors.

The FGSR Council has approved eligibility criteria for service on supervisory committees by those such as professors emeriti, adjunct professors, clinical appointees, etc. Details are available from the FGSR office.

Once a supervisory committee has been appointed, it shall be reviewed annually by the department. The department shall ensure that the supervisory committee has a formal regular meeting with the student at least once a year.

It is the responsibility of the supervisor to guide the student in the determination and modification, if necessary, of the student's program of study and research. The supervisor or supervisory committee (where applicable) is responsible for ensuring students' awareness of all program requirements and regulations governing their activities related to the graduate program. Such matters as course requirements for the degree program, language requirements (where applicable), and any pre-candidacy requirements or special skills needed are normally specified by the student's supervisor or supervisory committee.

It is the responsibility of supervisors to make adequate provision for supervision of their graduate students during their leave. Therefore, if a supervisor is to be absent from the University for a period exceeding two months, it is the supervisor's responsibility to nominate an adequate interim substitute and to inform the student, the department and the FGSR.

Departments are responsible for preparing a set of guidelines for supervisors and students. Guidelines should deal with the selection and functioning of supervisors and should outline the joint responsibilities of faculty members and graduate students. Avenues of appeal open to students who feel they are receiving unsatisfactory supervision should also be specified.

Each department is responsible for formulating its own criteria and requirements for the qualifications for graduate student supervision and submitting them for approval by the Dean, FGSR.

For further information on supervision see the Calendar preface, *Responsibilities Related to Graduate Programs.*

202.10 Thesis Requirement

All candidates in a thesis degree program shall present a thesis embodying the results of their research. The topic of the thesis must be approved by the candidate's supervisor or supervisory committee.

For candidates in a master's degree program, the thesis should reveal that the candidate is able to work in a scholarly manner and is acquainted with the principal works published on the subject of the thesis. As far as possible it should be an original contribution. A doctoral thesis must embody the results of original investigations and analyses and be of such quality as to merit publication; further- more, it must constitute a substantial contribution to the knowledge of the candidate's field of study.

The thesis should normally be written in English. In some departments candidates may be permitted to write their thesis in a language other than English, provided that language has been approved for use by the supervisory committee, the department and the FGSR. Theses written in a language other than English must have one abstract in the language of the thesis and one in English.

Candidates shall prepare a minimum of three copies of the thesis (four copies for Education students). Additional copies may be required by individual departments. Students should also keep in mind that it is customary for a copy of the thesis in its final form to be given to the supervisor.

Arrangements and expenses for thesis preparation, including typing, production of photographs and tables, and duplicating are the responsibility of the student. Instructions regarding thesis format and methods of thesis reproduction are available from the FGSR office in a booklet entitled, "Regulations and Guide for the Preparation of Theses." In any case of uncertainty about thesis preparation students should consult the Faculty office **before final typing**.

It is the responsibility of both the student and the supervisor to be familiar with all regulations of the Faculty of Graduate Studies and Research with respect to theses, and with any specific requirements of the student's department. Students should consult their department and their supervisory committee to determine whether they should use either the traditional or the paper format in the preparation of the thesis.

It is the responsibility of the student to present three copies (four copies for Education students) of the thesis to the Faculty of Graduate Studies and Research for approval **before the copies are bound.**

Time limit on submission of thesis. Following completion of the final oral examination at which the thesis is approved (or approved subject to revisions), the candidate shall make the appropriate revisions where necessary and submit the approved thesis to the FGSR office **within six months** of the date of the final oral examination. Departments may impose earlier deadlines for submitting revisions. If the thesis is not submitted to the FGSR within the six-month time limit, the candidate will be considered to have withdrawn from the program. After this time, the candidate must reapply and be readmitted to the FGSR before the thesis can be accepted.

Note: If the final oral examination is adjourned or postponed, the six-month time limit will take effect from the date of completion of the examination where the thesis was approved with or without revisions.

If a final oral examination is adjourned, the examining committee shall decide upon a date for reconvening the examination and shall inform the FGSR and the student in writing. The final date set for reconvening shall be **no later than six months** from the date of the examination. A final decision of the examining committee must be made within six months of the initial examination.

To ensure qualification for the earliest convocation following completion of the thesis, students must submit the unbound copies of their thesis to the FGSR office on or before the deadline date set by the Faculty, to allow enough time for the student's name to be included in the convocation program. Deadlines for submission of theses are found in the Academic Schedule; this information is also available from the FGSR office.

202.11 Oral Examination

All candidates in a thesis degree program must pass a final oral examination following submission of their thesis to the department. It is the responsibility of the supervisor (or a member of the departmental staff officially designated to do so), and not the student, to arrange the candidate's examination, ensuring that it is scheduled and held in accordance with FGSR regulations. The finished thesis must be submitted to the examining committee and a completed "Notice and Approval of Oral Examination Committee" form must be submitted to the FGSR at least **three weeks before the oral examination.**

The language used to conduct the final oral examination shall be English. However, the supervisory committee may petition the Dean of the Faculty of Graduate Studies and Research, and on receiving written approval may conduct the examination in a language other than English.

Each department offering a doctoral degree is required to establish detailed examination procedures for the candidacy and final oral examination. These procedures should be made available to staff and students in the department and to the Dean, FGSR.

202.12 Convocation

There are two convocations each year, normally held in June and November.

In order to convocate, students in thesis programs must complete all course work and submit three **unbound** copies (four copies for Education students) of the thesis to the FGSR by the deadline dates specified in the Academic Schedule. For further details on thesis submission refer to the "Regulations and Guide for the Preparation of Theses."

Students in course-based programs must complete all program requirements prior to the deadlines set out in the Academic Schedule. It is the responsibility of the department to forward a completed *Report of Final Completion for Course-based Degree* form to the FGSR by the deadline dates specified in the Academic Schedule, to ensure that the student's name will be included in the convocation list.

202.13 Time Limit for Completion of Graduate Programs

The time limit (or the maximum period of time permitted to complete the requirements for a degree) is calculated from the **start of the session in which the student first registers** in that specific program.

To be recommended for a master's degree, candidates must complete all the requirements **within four years** of the term in which they first register as probationary graduate students or as candidates in the master's program. A five-year time limit is in place for certain course-based master's programs. Consult the department listing.

To be recommended for a doctoral degree, candidates must complete all the requirements **within six years** of the term in which they first register as probationary graduate students or as provisional candidates for a doctoral degree. In the case of master's students who are reclassified as provisional candidates for a doctoral degree, all degree requirements must be completed within six years of the time they first register as a probationary graduate students or master's candidates.

To be recommended for a postgraduate diploma, candidates must complete all the requirements **within four years** of the time they first register as candidates in the postgraduate diploma program. See also §202.10 on time limits for submission of theses.

202.14 Program Extensions

In exceptional circumstances a candidate who has failed to complete all the requirements for the degree within the appropriate period specified in §202.13 may be considered for an extension, provided that the department so recommends and the Faculty of Graduate Studies and Research approves. Requests for extensions will only be considered if there are well-documented reasons specific to a particular type of research that precludes completion within the four, five, or six-year time limit, or unless there are sufficient, and substantial unforeseen circumstances beyond the control of the student and/or supervisor which prevent completion of the program within the time limits.

A candidate's program may be considered for an extension of up to one year at the time of initial request. Under exceptional circumstances an additional extension of up to one year may be granted by the FGSR.

A candidate who is granted an extension may be required to remain in or resume residence (i.e., be in close geographic proximity to the campus) until all degree requirements have been met. An extension is calculated as beginning immediately upon termination of the maximum permitted period of completion for that degree.

202.15 Appeals and Grievances

Student grievances of an academic nature sometimes arise. Students in the Faculty of Graduate Studies and Research are advised first to approach the instructor or supervisor concerned; in most cases, the issue can be resolved at this level. If the matter is not resolved, students are advised to see the department chair. **Departments are encouraged to have internal appeal procedures. Where these exist, they should be followed before moving the matter to the Faculty level. The Dean or Associate Dean may be approached by students for advice in these matters.**

In the event that a satisfactory resolution is not found at the departmental level, recourse is available to the Academic Appeals Committee within the FGSR. For further information regarding appeals procedures at the Faculty level, students should consult the list of regulations available from the FGSR office. **All formal appeals against a decision of the FGSR must be initiated within 30 calendar days of the student's receipt of the FGSR decision being appealed.**

Grade grievances (except in the 900 research project series) initiated by graduate students are not within the jurisdiction of the FGSR, but rather within the jurisdiction of the faculty from which the graduate student had taken the course in question.

Additional information on appeals and grievances is found in §16.8 of the University Calendar.

203 Degree and Postgraduate Diploma Regulations

The minimum requirements for all graduate programs are set by the Council of the Faculty of Graduate Studies and Research of the University of Alberta. In this calendar the **minimum requirements** acceptable are outlined under the respective headings. Students should note that the department offering the graduate program may impose additional requirements.

203.1 Master's Degrees

The University of Alberta offers the following master's degrees: Master of Agriculture, Master of Arts, Master of Business Administration, Master of Education, Master of Engineering, Master of Fine Arts, Master of Health Services Administration, Master of Laws, Master of Library and Information Studies, Master of Music, Master

Nursing, Master of Pharmacy, Master of Public anagement, Master of Science, and Master of Visual ts.

Two types of master's degree programs are offered—asis-based and course-based. Most departments and culties offer a master's program with thesis. Many fer course-based programs in addition to the thesis-ased route. In such programs the emphasis is on urse work, supplemented by a *capping exercise*. Details ay be obtained from the departments concerned.

The regulations outlined below apply to all master's gree programs.

03.1.1 General Regulations Governing Master's Programs

1) **Course Requirements:** Considerable variation is permitted in the balance between research and course requirements for the master's degree. All candidates must include some course work in their program. Proposals should normally include as a minimum research work equivalent to at least 12 units of course weight.

Graduate credit will not be given for undergraduate courses taken in the Department in which the graduate program is being pursued if this graduate program leads to a degree for which a thesis is not required.

Only in special circumstances, and on the recommendation of the department in which the graduate work is being done, will extramural courses be considered for credit by the Faculty of Graduate Studies and Research.

2) **Residence:** A graduate student registered in a program for a master's degree which has a residence requirement is normally required to spend a minimum of two terms in full-time attendance at the University of Alberta either as a candidate for the master's degree or as a probationary graduate student. An alternative proposal for meeting this residence requirement may be considered by the FGSR if recommended to the Faculty of Graduate Studies and Research by the department concerned.

Note: Some departments may require that a graduate student be in full-time attendance for specified terms (i.e., Winter and Intersession).

A qualifying year **does not** count toward the residence requirement.

3) **Language Requirement:** It is a requirement in some departments offering master's degrees that students show proof of proficiency in a language other than English. (For specific information on language requirements see the detailed program information under the appropriate departmental entry in §204.)

Master's degree candidates in programs that do not have a language requirement, who are planning to proceed to a doctoral degree, are advised to take note of any language requirement for that degree in advance.

4) **Supervision:** Each student in a master's program shall have a supervisor, whether the student is in a thesis-based or course-based program. The Dean of the FGSR is ultimately responsible for approving the appointment of a supervisor and, if it exists, a supervisory committee.

03.1.2 Thesis-based Programs

All candidates for a thesis-based master's degree nust submit the results of their research in the form of a hesis conforming to FGSR regulations.

An examining committee of at least three faculty nembers who are normally full-time (one from a department ther than that in which the student is registered), must e approved by the Faculty of Graduate Studies and Research at least three weeks before the examination. The committee will review the thesis and conduct an oral xamination designed to test the candidate's knowledge of the thesis subject and of related fields. It is the esponsibility of the supervisor (or a member of the departmental staff officially designated to do so), and ot the student, to arrange the candidate's examination, nsuring that it is scheduled and held in accordance with FGSR regulations. The Dean (or Associate Dean or Dean's designate), FGSR, may participate fully in the examination. Persons other than the examiners may attend with the approval of the Dean, FGSR, or the chair of the committee. If a final oral examination is adjourned, he examining committee shall decide upon a date for reconvening the examination and shall inform the FGSR and student in writing. The final date set for reconvening shall be **no later than six months** from the date of the examination. A final decision of the examining committee must be made within six months of the initial examination.

03.1.3 Course-based Programs

All students in a course-based master's degree program must have a supervisor and at least one evaluator for their research project; one of these must be from their department. These academic staff members shall be recommended by the department to the Faculty of Graduate Studies and Research for approval; they are responsible for maintenance of FGSR and departmental standards for the project. The student is responsible for producing a typed report of the project or some other finished product to be deposited in the department.

03.2 Doctoral Degrees

The University offers the following doctoral degrees: Doctor of Education, Doctor of Music and Doctor of Philosophy.

The essential requirement for the doctorate is the planning and carrying out of research of high quality leading to an advance in knowledge in the candidate's field of study.

03.2.1 The Degree of PhD

(1) **Provisional Candidacy:** Students may be admitted as provisional candidates for the degree of Doctor of Philosophy if they hold a bachelor's or a master's degree, or equivalent, from an approved university. Admission is contingent upon recommendation by a department, approval by the FGSR, and the availability of: suitable supervision; suitable courses of study; and adequate library, laboratory and other facilities. Students will remain as provisional candidates until they have successfully completed their candidacy examination (see (5) below).

(2) **Minimum Time and Residence Requirements:** The time necessary to complete the requirements for the doctoral degree depends to some extent upon the student's progress; however, there are minimum periods of study and residence. For a student with a bachelor's degree the minimum requirement is three academic years of study and research, two of which must be in residence at the University of Alberta. For a student with a master's degree the minimum requirement is two academic years of study and research in residence at the University of Alberta. A department may propose an alternate method of meeting the residence requirement; however, the alternative is subject to approval by the Faculty of Graduate Studies and Research.

(3) **Language Requirement:** A department may require a student to demonstrate a knowledge of one or more languages in addition to English. Where this is the case, the student must satisfy the language requirement before being allowed to take the candidacy examination.

(4) **Supervisory Committee:** The student's program shall be under the direction of a supervisory committee of at least three faculty members who shall normally be full-time and be appointed by the Faculty of Graduate Studies and Research upon the recommendation of the department. The chair of the committee shall be the faculty member under whose supervision the student is carrying out the research. Where appropriate, one or more members of the committee may be chosen from a department other than that in which the research is being carried out. The committee shall arrange for the necessary examinations and for adjudication of the thesis.

(5) **Candidacy Examination:** Students in doctoral programs are required to pass a candidacy examination in subjects relevant to their general field of research. The candidacy exam is an oral examination; some departments may also require that students take comprehensive written examinations prior to the candidacy exam.

The candidacy examination is normally held within two years of the commencement of the program at a time when most, if not all, of the required course work is completed and the thesis started or well defined. The candidacy examination must be passed no less than six months prior to taking the final oral examination.

The candidacy examination is arranged by the supervisor (or other officially designated staff member), and not the student, ensuring that it is scheduled and held in accordance with FGSR regulations.

Both the candidacy and final oral examinations shall be chaired by a faculty member who is not the supervisor but is a member of the student's home department. Each department shall establish a mechanism by which individuals are assigned this responsibility. The chair is responsible for moderating the discussion and directing questions and may participate in the questioning. If the chair is not a member of the committee, the chair does not vote or sign the thesis. It is the chair's responsibility to ensure that Departmental and Faculty regulations relating to candidacy and final oral examinations are followed.

Each department is responsible for establishing detailed examination procedures for the candidacy examination. These procedures should be made available to staff and students in the department and to the Dean, FGSR.

Students must demonstrate to the satisfaction of the examining committee that they possess: (a) an adequate knowledge of the discipline and of the subject matter relevant to the thesis; and (b) the ability to pursue and complete original research at an advanced level. During the candidacy examination only minor attention should be given to the work done on the thesis.

This examination shall be under the direction of the supervisory committee to which two other full-time members of the teaching staff have been added. At least one member of the examining committee shall be a person from a department other than that in which the research is being carried out. It is the responsibility of the Department to nominate the committee members and forward their names to the FGSR for approval at least three weeks in advance of the candidacy examination. The Dean, FGSR, (or the Dean's designate) may participate fully in the examination. Persons other than the examiners may attend only with the permission of the Dean, FGSR, or the chair of the committee. Visitors may not participate in the committee's discussion concerning its decision on the student's performance.

(6) **Thesis Requirement:** Candidates shall present their research results in a thesis which satisfies the requirements of the FGSR as set out in the "Regulations and Guide for the Preparation of Theses." The material must be of sufficient merit to meet the standards of reputable scholarly publications.

(7) **Final Examining Committee:** Before the thesis is forwarded to the external examiner, PhD supervisory committee members shall each declare **in writing** to the supervisor either that the thesis is of adequate substance to warrant that the student proceed to the final examination **or** that the thesis is unsatisfactory and that the student should not be allowed to proceed to the final oral examination.

The thesis shall be reviewed by an examining committee consisting of the supervisory committee and at least two other examiners. It is the responsibility of the Department to recommend the committee members and forward their names to the FGSR for approval at least three weeks in advance of the final oral examination, however, the request for the external examiner shall normally be submitted for FGSR approval at least two months prior to the examination. One member of the examining committee shall be from a department other than that in which the student is working. One member shall be an external examiner who may or may not be invited by the FGSR to attend the examination. The external examiner shall be nominated by the department and approved and invited by the Dean of the Faculty of Graduate Studies and Research. The external examiner shall be a recognized authority in the special field of research and should have had no previous association with the candidate. The external examiner shall receive the thesis from the Department at least four weeks before the examination.

Both the candidacy and final oral examinations shall be chaired by a faculty member who is not the supervisor but is a member of the student's home department. Each department shall establish a mechanism by which individuals are assigned this responsibility. The chair is responsible for moderating the discussion and directing questions and may participate in the questioning. If the chair is not a member of the committee, the chair does not vote or sign the thesis. It is the chair's responsibility to ensure that Departmental and Faculty regulations relating to candidacy and final oral examinations are followed.

(8) **Final Oral Examination:** A final oral examination, based largely on the thesis, shall be conducted by the examining committee. The final oral examination is arranged by the supervisor (or other officially designated staff member), and not the student, who ensures that it is scheduled and held in accordance with FGSR regulations.

Each department is required to establish detailed examination procedures for final oral examinations.

These procedures should be made available to staff and students in the department and to the Dean of the Faculty of Graduate Studies and Research.

Members of the staff of the student's major department, as well as members of the Council of the Faculty of Graduate Studies and Research (or their alternates), have the right to attend but should so notify the chair of the examining committee. Other persons may attend with special permission of the Dean, FGSR, or the chair of the examining committee.

The Dean (or the Dean's designate) of the Faculty of Graduate Studies and Research, may participate fully in the examination. Persons who are not members of the examining committee (a) may participate in the questioning only by permission of the chair of the committee, and (b) are not permitted to participate in the discussion of the student's performance and must withdraw before such discussion commences.

If a final oral examination is adjourned, the examining committee shall decide upon a date for reconvening the examination and shall inform the FGSR and the student in writing. The final date set for reconvening shall be **no later than six months** from the date of the examination. A final decision of the examining committee must be made within six months of the initial examination.

203.2.2 The Degree of DMus

The regulations pertaining to the PhD degree also apply to the Doctor of Music degree; exceptions and special conditions are noted in §204.55.

203.2.3 Combined Program for the Degrees of MD and PhD

Highly qualified students wishing to pursue a career of teaching and research in either basic medical science or in clinical medicine may enroll in a program of six to seven years' duration leading to the acquisition of both an MD and a PhD degree.

A student may, on completing two years of a medical program, withdraw from that program and apply for admission to the Faculty of Graduate Studies and Research. If acceptable to the appropriate basic science department and the FGSR, the student would begin a program leading to the PhD degree. The time needed to complete the requirements for the PhD would depend upon the previous training of the applicant. Normally, a student who enters the Faculty of Medicine holding a BSc degree would require three years, whereas a student who enters the Faculty of Medicine from a two-year premedical program would require four years. On completion of the PhD program the student could re-enter the Faculty of Medicine and complete the requirements for the MD degree.

Students interested in such a program may obtain further information from the chair of the appropriate department.

Note: For classification purposes postgraduate medical students are considered to be graduate students. As such, they have the option of paying fees to the Graduate Students' Association (see §15.2.10 of the University Calendar).

203.2.4 The Degree of EdD

The degree of Doctor of Education attests proficiency in a program of graduate study in which the emphasis is upon preparation for competent professional performance. The general regulations for the EdD degree concerning admission, residence requirements, the candidacy examination and final oral examination (based largely on the thesis) are the same as those outlined under the PhD degree, with the following exceptions:

(1) Several years of successful teaching and an MEd degree or its equivalent are prerequisites for admission into the EdD program.

(2) A reading knowledge of French is required. In special circumstances another language may be substituted.

(3) The program emphasizes breadth in educational theory, practice and research rather than intensive specialization in a particular area.

(4) The student's program may make provision for supervised field experience.

203.3 Postgraduate Diploma Programs

The University of Alberta offers the following postgraduate diplomas: Postgraduate Diploma in Educational Administration, Postgraduate Diploma in Exploration Geology, Postgraduate Diploma in Health Services Administration, Postgraduate Diploma in Law, and Postgraduate Diploma in Textile Conservation and Curatorship.

Information regarding specific postgraduate diploma programs is provided under the appropriate departmental listing in §204 below.

204 Graduate Programs and Courses

204.1 General Information

A brief description of each program offered under the auspices of the Faculty of Graduate Studies and Research is given in the following section. Entries are arranged alphabetically by department. Prospective applicants should note, in addition to the general requirements of the FGSR, the particular admission requirements, potential fields of research and the specific requirements for each program. Graduate and undergraduate courses that may be taken in order to fulfill the requirements for a graduate program are listed under the description of that program.

The Faculty of Graduate Studies and Research supports the concept of interdisciplinary studies. Guidelines for proposing such a program are available from the FGSR office.

Each course is designated by its computer abbreviation and a number.

Following the course title is (in most instances) the symbol ★ and a number indicating the units of course weight used in computing grade-point averages. (**Note**: The weights (or units of course weight) for the Faculty of Engineering are based on the number of hours of lectures, seminars and laboratories and are listed following the symbol □.) A normal full-session course is assigned a weight of 6; a single-term (or half) course is normally assigned a weight of 3. Some courses involving research may vary in weight according to the length and difficulty of the project.

Three figures, enclosed in parentheses, follow the course weight. These figures indicate the weekly number of hours of instruction in that course. The format is as follows: the first position indicates lecture hours; the second position indicates hours of seminar (s), demonstration (d), clinic (c), or lecture-lab (L); and the third position indicates laboratory hours. If the course is a single-term course, the term in which it is offered is indicated. For example, the entry:

CHEM 513 Electronics for Scientists
★3 (second term, 3-0-3)

indicates a chemistry course with 3 units of course weight, offered in the second term, normally involving 3 hours of lectures and 3 hours of laboratory work each week.

Each department may offer only a selection of its courses in any given year. Information as to which courses will be offered, the names of the instructors, and all further details must be sought from the department concerned.

Physical Requirements for University

The University has a commitment to the education of all academically qualified students and special services are frequently provided on campus to assist disabled students.

Nevertheless, some courses make certain unavoidable demands on students, with repect to the possession of a certain level of physical skill or ability, if the academic objectives of the course are to be realized. In case of doubt, students are advised to contact the department concerned and the Disabled Student Services Coordinator, Office of the Dean of Student Services.

Since support services cannot be guaranteed for all off-campus courses, instructors may be obliged to refuse registration in such courses.

204.2 Adult, Career, and Technology Education

Department of Adult, Career, and Technology Education
633 Education Building S
University of Alberta
Edmonton, Alberta T6G 2G5

204.2.1 General Information

The Department of Adult, Career, and Technolo Education offers programs leading to the Master Education degree in adult and higher education, indust and vocational education, and instructional technolo These programs are designed for professional educat holding an approved 4-year degree in education related field with a successful career background. Norma the graduate programs include a combination of professio and graduate level courses offered by the Faculty Education and other faculties in the University. Prospect candidates should consult with the Department befo formalizing their application in order to determi admissibility and to plan an appropriate program study.

Entrance Requirements:

The Department's minimum admission requireme include:

(1) an approved four-year degree in education equivalent

(2) a minimum GPA of 7.0 in the last two years undergraduate/graduate study at a recogniz institution

(3) a minimum TOEFL score (if applicable) of 550 (s §202.2.2).

(4) comprehensive resume documenting care professional experience

(5) letters of reference (academic and professional).

Financial Assistance:

Financial assistance, usually in the form of gradua assistantships, scholarships, awards, etc., may be availat to qualified candidates and is awarded on the basis academic merit and scholarship.

Inquiries concerning admission, programs a assistantships should be directed to the chair of t department.

204.2.2 The Degree of MEd

Program Requirements:

The MEd degree program normally consists of minimum of 30 units of course weight, additional cours as required by the advisory committee, and the preparati and defence of an approved thesis or major proje Each student will develop a program of study in consultati with an advisory committee to suit the student's specif background and research interests.

The minimum period of residence is two four-mon terms of full-time attendance at the University of Albert

An alternative to the residency requirement is availab to students pursuing the degree on a part-time basi These students must complete a minimum of 36 units course weight and a major project.

Length of Program:

The time required to complete the MEd will vary wi the individual candidate; however, a minimum of tw academic years is normally required.

204.2.3 Graduate Courses

THE 900 Thesis
THE 999 Thesis
EDACT 900 ★6 Directed Research Project

EDACT 500 Industrial and Vocational Education Seminar
★0 Non-credit. Hours to be arranged. Reports an discussions by staff and graduate students to provid candidates for advanced degrees with experience in th selection and evaluation of research problems and pro cedures.

EDACT 501 Special Topic
★1 (either term, 1-0-0). Prerequisite: Consent of depar ment. Content varies from year to year. Topics announce prior to registration. The student's transcript carries titl descriptive of content. May be repeated.

EDACT 502 Special Topic
★2 (either term, 2-0-0). Prerequisite: Consent of depar ment. Content varies from year to year. Topics announce prior to registration. The student's transcript carries titl descriptive of content. May be repeated.

EDACT 503 Special Topic
★3 (either term, 3-0-0). Prerequisite: Consent of depar ment. Content varies from year to year. Topics announce prior to registration. The student's transcript carries titl descriptive of content. May be repeated.

EDACT 509 Development and Principles of Industrial and Vocational Education
★3 (either term, 3-0-0).

ACT 511 Curriculum and Instruction in Industrial Vocational Education
(either term, 3-0-0).

ACT 519 Supervision and Planning of Industrial Vocational Facilities and Programs
(either term, 3-0-0).

ACT 521 Evaluation of Industrial and Vocational cation Programs
(either term, 3-0-0).

ACT 539 Technological Assessment and its lication for Industrial and Vocational Education ricula
(either term, 3-0-0).

ACT 541 Technological Forecasting and its lication for Industrial and Vocational Education ricula
(either term, 3-0-0).

ACT 549 Survey of Occupations — Conference minar I
(either term, 1-0-3).

ACT 551 Survey of Occupations — Conference minar II
(either term, 1-0-3).

ADU 551 Selected Topics in Adult Education
(either term, 3-0-0).

ADU 555 Research Project in Adult Education
(either term, 3-0-0).

ADU 557 Independent Study in Adult Education
(either term, 3-0-0).

MDA 559 Intermediate Production in tructional Media
(either term, 3-0-3). Prerequisite: EDMDA 467 or sent of department.

ADU 560 Instructional Methods in Adult and her Education
(either term, 3-0-0).

ADU 561 Curriculum Planning in Adult and her Education
(either term, 3-0-0).

MDA 561 Organization and Supervision of the ucational Media Program I
(either term, 3-0-0). Prerequisite: EDMDA 351 or sent of department.

MDA 563 Organization and Supervision of the ucational Media Program II
(either term, 3-0-3). Prerequisite: EDMDA 561 or sent of department.

MDA 571 Developing Multi-Media Instructional terials I
(either term, 0-3L-0). Prerequisite or Corequisite: MDA 473 or consent of department.

ACT 572 Topics in Computer-Based Instruction
(either term, 3-0-0).

MDA 573 Developing Multi-Media Instructional terials II
(either term, 0-3L-0). Prerequisite: EDMDA 571 or sent of department.

ACT 574 Project Design in Computer-Based tructional
(either term, 3-1s-3).

ACT 575 Application of Microcomputers in ucation
(second term, 3-0-0). Integration of the microcomer into the educational environment through the vanced application of BASIC and spreadsheets/ tabases. Registration restricted to Faculty of Educan diploma and graduate students. Prerequisite: EDACT 4 or equivalent or consent of department. Credit will t be granted for both EDACT 375 and EDACT 575.

ACT 576 Seminar in Theory of Computer-Based tructional
(either term, 3-0-0).

ACT 578 Internship in Instructional Technology
(either term, 3-1s-3).

MDA 580 Graduate Seminar in Educational Media
(either term, 3-0-0). Prerequisite: At least two courses Educational Media including EDMDA 351 or consent of partment.

MDA 581 Educational Television Applications
(either term, 3-0-3). Prerequisite: EDMDA 351 or nsent of department.

MDA 582 Graduate Seminar in Current lucational Media Development
(either term, 3-0-0). Prerequisite: At least two courses Educational Media including EDMDA 351 or consent department.

EDMDA 583 Educational Television: Survey of Educational Applications
★3 (either term, 0-3L-0). Prerequisite: Consent of department.

EDACT 585 Individual Directed Laboratory Study
★3 (either term, 3-0-3).

EDACT 587 Individual Directed Study
★3 (either term, 3-0-0). Prerequisite: Consent of department.

EDACT 589 Organization of Industrial and Vocational Education
★3 (either term, 3-0-0).

EDACT 591 Problems and Trends in Industrial and Vocational Education
★3 (either term, 3-0-0).

EDACT 593 Survey of Industrial and Vocational Education Research I
★3 (either term, 3-0-0).

EDACT 595 Survey of Industrial and Vocational Education Research II
★3 (either term, 3-0-0).

204.3 Agricultural Engineering

Department of Agricultural Engineering
751 General Services Building
University of Alberta
Edmonton, Alberta T6G 2H1

204.3.1 General Information

The Department of Agricultural Engineering offers programs leading to the degrees of Master of Agriculture, Master of Engineering and Master of Science.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2).

Candidates with undergraduate training in engineering agrology, agricultural mechanization, or agriculture can enroll in either the MAg or MSc programs; those with a degree in agricultural engineering or its engineering equivalent can enroll in either the MEng or MSc programs.

Candidates with undergraduate training in forestry or forest engineering can enrol in an MSc program in either of the following specializations: (a) forest operations, or (b) wood utilization.

Financial Assistance:

Funds are available for a limited number of graduate students to be engaged by the Department as teaching and research assistants. Financial assistance is also available for graduate students through research grants awarded to staff in specific areas.

204.3.2 The Degrees of MAg and MEng

Applicants will normally be expected to have at least three years of post-BSc experience.

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student. Master of Agriculture and Master of Engineering programs consist of AG EN 600, AG EN 601 plus 24 units of course weight and a project equivalent to three units of course weight.

At least 15 of the 24 units of course weight should be at the 500-level or higher. A minimum of nine units of course weight should be taken from within the Department.

No language other than English is required for the MAg or the MEng degree.

The minimum period of residence is one four-month term in full-time attendance at the University of Alberta.

Length of Program:

The time limit for completion of the MAg and MEng programs is four years from the date of initial registration.

204.3.3 The Degree of MSc

Program Requirements:

Master of Science programs normally consist of AG EN 600 and AG EN 601 plus 18 units of course weight and a thesis. At least six units of course weight should be in advanced statistics, advanced mathematics, or advanced numerical methods. The other required course should be related to the thesis research and a minimum of two should be at the 500-level or higher.

Research work leading to the preparation of a thesis for the MSc degree is undertaken within the Department of Agricultural Engineering. Graduate students may conduct part of their research at the Agriculture Canada Research Station, Lethbridge, Alberta, or other approved off-campus research, educational, or technical institutions.

There is no language requirement for the degree of MSc.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time limit for completion of the program is four years from the date of initial registration.

204.3.4 Undergraduate Courses

The following may be taken for graduate credit:

AG EN 413 Irrigation and Drainage Engineering
★3 (second term, 3-0-3). Irrigation and drainage principles; planning and design of irrigation and drainage systems. Prerequisite: MEC E 431 or CIV E 430.

AG EN 420 Mathematical Programming in Agriculture and Forestry
★3 (first term, 3-0-3). Mathematical programming methods applied to the analysis of production systems in agriculture and forestry. Prerequisite: AG EC 316 or MATH 120 or MATH 200.

AG EN 421 Simulation Methods in Agricultural Engineering
★3 (second term, 3-0-3). Continuous and discrete simulation methods applied to the study of agricultural processes. Prerequisite: Introductory courses in Computing Science and Calculus. Not open to students with credit in FOREN 421.

FOREN 421 Simulation Methods in Forest Engineering
★3 (second term, 3-0-3). Continuous and discrete simulation methods applied to the study of processes in forest operations. Prerequisite: Introductory courses in computing science and calculus. Not open to students with credit in AG EN 421. [Agricultural Engineering]

AG EN 430 Structural Design of Agricultural Buildings
★3 (second term, 3-0-3). Principles of structural design as related to the use of timber, steel and concrete in agricultural buildings. Prerequisite: CIV E 360.

FOREN 435 Advanced Transportation of Forest Products
★3 (second term, 3-0-3). Advanced studies in the methods and systems of movement of wood and wood products. Equipment for primary and secondary transportation of timber. Planning and cost analysis of logging operations and equipment. Forest roads and bridges. Prerequisite: FOREN 335. (Offered jointly by the Departments of Agricultural Engineering and Forest Science.) [Forest Science]

AG EN 453 Power Units
★3 (first term, 3-0-3). Energy conversion, power transmission, soil vehicle mechanics, hydraulic systems, tractor performance and evaluation, tractor dynamics. Prerequisite: MEC E 431 or CIV E 430.

AG EN 454 Agricultural Machinery
★3 (second term, 3-0-3). The course uses the wedge theory and the Mohr-Coulomb failure criteria as a basis for a simple tillage theory. Various tillage tools are examined as well as implement and tractor chassis mechanics. An introduction to harvesting processes is made. Particle dynamics and mechanics of raking and cutting are developed. Harvesting systems are noted. Prerequisite: MEC E 350, CIV E 480.

AG EN 456 Post-Harvest Technology
★3 (first term, 3-0-3). This course is an analysis of forage conditioning, fractionation, wafering, preservation and ensiling; grain and forage dehydration, feeding and transport equipment, storage regimes, process control; and grain cleaning, sorting and milling. Prerequisite: MATH 113.

AG EN 500 Agricultural Engineering Field Trip
★0. An extended trip to visit agricultural engineering operations is required of all agricultural engineering students. Normally conducted for third and fourth-year students in September of even numbered years prior to start of classes.

AG EN 503 Instrumentation in Agricultural Engineering
★3 (second term, 3-0-3). A study of the primary sensing elements used in agricultural engineering, their principles of operation and application. An introduction to signal conditioning and the use of digital techniques in instrumentation. Prerequisite: E E 405.

204.3.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis
AG EN 900 ★3 Directed Research Project Detailed report in the student's major area of interest in an MAg or MEng program.

FOREN 550 Problems in Forest Engineering
★3 (either term, 3-0-0). Directed study in forest engineering, including forest harvesting, road location and construction. Prerequisite: Consent of instructor. (Offered jointly by the Departments of Agricultural Engineering and Forest Science.) [Forest Science]

AG EN 552 Advanced Irrigation and Drainage
★3 (either term, 3-1s-0). Studies of selected topics or special problems in irrigation and drainage. Prerequisite: AG EN 411 or AG EN 413.

FOREN 560 Trends and Problems in Wood Science I
★3 (either term, 0-3s-0). Individual study. Directed study in wood technology and forest products. Prerequisite: Consent of instructor. [Agricultural Engineering]

FOREN 561 Trends and Problems in Wood Science II
★3 (either term, 0-3s-0). Individual study. Directed study in wood technology and forest products. Prerequisite: Consent of instructor. [Agricultural Engineering]

AG EN 600 Agricultural Engineering Seminar
★0.0 (first term, 0-1s-0). Required of all graduate students.

AG EN 601 Agricultural Engineering Seminar
★0.0 (second term, 0-1s-0). Required of all graduate students.

AG EN 602 Selected Topics in Agricultural Mechanization I
★3 (either term, 3-0-0). Individual study. Application of statistical and mathematical techniques to selected problems in agricultural engineering.

AG EN 603 Agricultural Building Topics I
★3 (either term, 3-0-0). Individual study.

AG EN 604 Advanced Farm Power I
★3 (either term, 3-0-0). Individual study. Selected topics in agricultural power units.

AG EN 605 Project in Agricultural Machinery I
★3 (either term, 3-0-0). Individual study.

AG EN 606 Advanced Soil and Water Engineering I
★3 (either term, 3-0-0). Individual study.

AG EN 607 Data Analysis and Processing
★3 (either term, 3-0-3). Application of statistical techniques to experiments in agricultural engineering including dimensional analysis and curve fitting techniques. Data computation with graphical output.

AG EN 608 Selected Topics in Agricultural Mechanization II
★3 (either term, 3-0-0). Individual study. Application of statistical and mathematical techniques to selected problems in agricultural engineering.

AG EN 609 Agricultural Building Topics II
★3 (either term, 3-0-0). Individual study.

AG EN 610 Advanced Farm Power II
★3 (either term, 3-0-0). Individual study. Selected topics in agricultural power units.

AG EN 611 Project in Agricultural Machinery II
★3 (either term, 3-0-0). Individual study.

AG EN 612 Advanced Soil and Water Engineering II
★3 (either term, 3-0-0). Individual study.

FOREN 650 Selected Topics in Forest Engineering
★3 (either term, 3-0-0). Individual study. (Offered jointly by the Departments of Agricultural Engineering and Forest Science.) [Forest Science]

FOREN 660 Selected Topics in Wood Science I
★3 (either term, 0-3s-0). Individual study. [Agricultural Engineering]

FOREN 661 Selected Topics in Wood Science II
★3 (either term, 0-3s-0). Individual study. [Agricultural Engineering]

204.4 Anatomy and Cell Biology

Department of Anatomy and Cell Biology
514 Medical Sciences Building
University of Alberta
Edmonton, Alberta T6G 2H7

204.4.1 General Information

The Department of Anatomy and Cell Biology offers a program of course work and research leading to the degrees of MSc and PhD. Graduate work in the Department encompasses the broad spectrum of scientific applications inherent within cell biology, including light and electron microscopy, immunohistochemistry, molecular biology, and contemporary techniques in biochemistry.

Address all inquiries to the Graduate Coordinator, Department of Anatomy and Cell Biology.

Entrance Requirements:

Graduate programs are normally open to graduates of general and health-related science programs, provided students obtained a grade point average of 6.5 at the University of Alberta or an equivalent qualification from a recognized institution. Applicants with degrees in other fields will be considered. Where applicable, candidates must have a TOEFL score of not less than 550 (see §202.2.2).

Financial Assistance:

Financial assistance from within the Department is available for outstanding students and is awarded on the basis of merit. Further information regarding financial assistance will be supplied upon request.

204.4.2 The Degree of MSc

Program Requirements:

Candidates for the MSc must prepare an acceptable thesis presenting the results of original research conducted. Candidates will be examined orally on their thesis results by a committee formed according to Faculty of Graduate Studies and Research regulations. Course requirements will be determined by the student's graduate advisory committee in accordance with University regulations.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MSc will vary according to the previous training of the applicant. A minimum of two years is normally required.

204.4.3 The Degree of PhD

Program Requirements:

Students in the PhD program will take an oral candidacy and a final examination, supervised by a committee formed according to Faculty of Graduate Studies and Research regulations.

No language other than English is required for the PhD.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta. Course requirements will be determined by the student's graduate advisory committee in accordance with University regulations.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research undertaken. A minimum of three years beyond the MSc degree is normally required.

204.4.4 Graduate Courses

ANAT 612 Research Project
★3 (either term, 2-0-4). Prerequisite: Consent of department.

ANAT 613 Development and Molecular Neurobiology
★3 (first term, 0-3s-0). This course will explore nine topics in developmental neurobiology, including cell lineage, nerve growth and guidance, myelination, synapse formation, axonal transport and response to injury. In particular, the course will emphasize theoretical and experimental aspects, the expanding role of molecular biology in studies in this field, and areas of present and future research. Prerequisite: Consent of department. Note: Offered in alternate years (starting Fall 1989).

204.5 Animal Science

Department of Animal Science
Agriculture/Forestry Centre 310
University of Alberta
Edmonton, Alberta T6G 2P5

204.5.1 General Information

Graduate studies in animal science leading to the degrees of Master of Science, Master of Agriculture, and Doctor of Philosophy may be taken in animal biochemistry, biotechnology, breeding, genetics, growth and development, nutrition, physiology, production, or wildlife management. Domestic and non-domestic species of animals and poultry may be studied. The Department's laboratory complex is known internationally for its state-of-the-art equipment and well-developed support facilities. The Department also maintains a cattle ranch and feedlot, dairy, poultry and swine units, a wildlife field station, and the Laird McElroy Environment and Metabolism Centre.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with a grade point average of at least 7.0 in the last two years of undergraduate (or graduate) work at the University of Alberta or an equivalent qualification from a recognized institution. Where applicable (see §202.2.2), applicants must have a minimum TOEFL score of 550.

Financial Assistance:

Information regarding assistantships and other forms of financial assistance currently available to graduate students will be supplied upon request; address inquiries to the Graduate Coordinator of the Department.

204.5.2 The Degree of MSc

Program Requirements:

Normally, MSc students are required to complete two of the animal science graduate courses listed below plus at least two approved courses selected from the following areas: biochemistry, biometrics, chemistry, computing science, genetics, mathematics, microbiology, physiology, and zoology.

In addition, candidates for the MSc must prepare an acceptable thesis presenting results of research conducted. Candidates will be examined orally on their thesis results by committees formed according to Faculty of Graduate Studies and Research regulations.

There is no language requirement for the degree of MSc, but the thesis must be written in English.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete an MSc program varies according to the undergraduate training of the student and the nature of the research undertaken. Normally, two years are required to complete the degree program.

204.5.3 The Degree of MAg

Program Requirements:

For the MAg degree:

1. the applicant is normally expected to have completed three years of satisfactory professional experience;
2. the minimum residence requirement is one term of full-time attendance;
3. the degree program consists of the equivalent of 30 units of course weight in graduate level courses plus a project equivalent to three units of course weight.

204.5.4 The Degree of PhD

Program Requirements:

Courses for PhD students are selected according to the background and interests of the candidates.

All candidates for the PhD must prepare an acceptable thesis presenting results of research conducted. Candidates will be examined orally on their thesis results by committees formed according to Faculty of Graduate Studies and Research regulations.

No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

Normally, three years are required to complete the PhD.

204.5.5 Undergraduate Courses

The following may be taken for graduate credit:

POULT 459 Poultry Products and Technology
★3 (first term, 3-0-3). A study of the structure, chemical composition, nutritive value and preservation of eggs and egg products; factors affecting growth, carcass composition and quality of poultry meat; processing and marketing regulations. Prerequisite: Third year standing or higher.

AN SC 460 Fundamentals of Nutrition
★3 (first term, 3-0-0). The nutrients, their character and metabolism. Reading assignments in relevant literature. Prerequisite: Third year standing or higher.

SC 461 Ruminant Nutrition
(second term, 3-0-3). Application of energy metabo-, nutrient requirements, feed processing and feeding ctices. Laboratory exercises in feed formulation. Pre-isite: AN SC 460.

SC 463 Applied Monogastric Nutrition
(second term, 3-0-3). Energy and nutrients in the rition of poultry, swine and other monogastrics. Nutri- requirements and feeding practices. Laboratory ex-ses in feed formulation. Prerequisite: AN SC 460.

SC 470 Swine Production and Management
(first term, 3-0-3). Examination of the structure of the adian swine industry. Evaluation of breeding, feed- and management practices that optimize swine duction efficiency and profitability. Prerequisite: Third r standing or higher.

SC 472 Dairy Production and Technology
(first term, 3-0-3). Structure of the dairy industry. nciples, practices and problems associated with the duction of quality milk. Management, feeding and sing systems to optimize the efficiency of milk pro-tion. Dairy products and processing. Prerequisite: rd year standing or higher.

SC 477 Beef Cattle Production and Management
(second term, 3-0-3). Current practices, changes progress in beef cattle production. Prerequisite: rd year standing or higher.

SC 484 Animal Population Genetics
(first term, 1.5-2s-0). A lecture, library and discus-n course dealing with concepts in evolutionary and pulation genetics. Prerequisite: GENET 197 and third r standing or higher.

SC 485 Animal Improvement
(second term, 3-0-2). Application of genetic princi-s to the improvement of livestock and poultry. Prereq-site: GENET 197 and third year standing or higher.

SC 491 Animal Biochemistry
(second term, 3-0-3). Prerequisite: One single-term urse in introductory biochemistry.

SC 493 Physiological Chemistry of Muscle and at
(second term, 3-0-0). Structure, composition, devel-ment and metabolic role of muscle. Effects of hor-nes, nutrition, stress, slaughter and post-mortem tabolism. Prerequisite: One single-term course in roductory biochemistry.

04.5.6 Graduate Courses

THES 900 Thesis
THES 999 Thesis
AN SC 900★3 Directed Research Project

SC 501 Research Project
3 (either term, 0-3s-0). Individual study. A single-term urse; may be offered over the full session.

SC 510 Ruminant Physiology
3 (first term, 3-0-3). Selected topics in metabolic docrinology and environmental physiology of rumi-nts. Offered in odd-numbered years. Prerequisite: ngle-term courses in biochemistry and physiology.

SC 551 Grazing System Dynamics
3 (second term, 3-0-3). Application of the techniques systems analysis and computer simulation in search and management of livestock and wildlife oduction systems. Prerequisite: Consent of instructor. ffered in odd numbered years.

SC 580 Biometrical Techniques in Agricultural cience I
3 (either term, 3-0-3). Application of biometrical tech-ques to problems in agricultural science. Prerequisite: ourth year standing or higher. Three units of course eight in introductory statistics recommended.

SC 583 Biometrical Techniques in Agricultural cience II
3 (second term, 3-0-3). A continuation of AN SC 580 in e application of biometrical techniques to problems in gricultural science. Prerequisite: AN SC 580 recom-ended.

SC 587 Biometrical Techniques in Quantitative nimal Genetics
3 (second term, 3-0-3). Prerequisite: AN SC 580 rec-mmended. Offered in even-numbered years.

SC 600 Seminar
3 (0-3s-0). Required of all graduate students. A full-ession course; may be offered over a single term.

SC 611 Advanced Animal Bioenergetics
3 (second term, 3-0-0). A lecture and reading course in nimal bioenergetics. Offered in odd-numbered years. rerequisite: Single-term courses in animal physiology, utrition and biochemistry.

AN SC 614 Advanced Vitamin and Mineral Nutrition
★3 (first term, 3-0-0). A lecture and reading course in vitamins and minerals. Offered in odd-numbered years. Prerequisite: Single-term courses in nutrition and biochemistry.

AN SC 615 Advanced Reproductive Endocrinology
★3 (second term, 0-3s-0). A seminar and discussion course on recent developments in reproductive endocrinology with particular emphasis on aspects of domestic animal reproduction. Offered in even-numbered years. Prerequisite: INT D 544 or consent of instructor.

AN SC 616 Advanced Protein Nutrition
★3 (first term, 3-0-0). A lecture and reading course in protein nutrition. Offered in even-numbered years. Prerequisite: AN SC 460 and BIOCH 301 or equivalent.

204.5.7 Reserve List

The Department is unable to offer the following course regularly. Students should consult the Department and/or the University timetable.

AN SC 464 Nutritional Experimentation
★3 (first term, 2-0-3). Design, completion and analysis of nutrition experiments involving several species of animals. Familiarization with laboratory techniques, statistical analyses, literature review and citation and interpretation of experimental data.

204.6 Anthropology

Department of Anthropology
13-15 Tory Building
University of Alberta
Edmonton, Alberta T6G 2H4

204.6.1 General Information

The Department of Anthropology offers the Master of Arts and Doctor of Philosophy degrees. Students contemplating graduate work in anthropology should direct their inquiries to the Associate Chair of the Department.

Deadline for receipt of completed applications for admission is March 1. However, applicants for admission to the PhD program who wish to be considered for University of Alberta PhD Scholarships are encouraged to apply well in advance of March 1.

Entrance Requirements:

The Department's minimum admission requirements are a four-year undergraduate degree with a grade point average of 7.0 in the last two years of undergraduate (or graduate) work at the University of Alberta, or an equivalent qualification from a recognized institution. Individual or exceptional cases will be considered. Where applicable (refer to §202.2.2), candidates must have a TOEFL score of 550 or MELAB score of 85 or higher in order to be considered for admission.

Financial Assistance:

The Department has a number of teaching and research assistantships for which a student may apply.

204.6.2 The Degree of MA

Program Requirements:

In addition to satisfying the general requirements of the Faculty of Graduate Studies and Research, candidates for the MA degree must complete courses in four sub-areas and general theory:

(1) Area I: Biology, Environment, and Culture in Evolutionary Perspective
   a. Sub Area 1: Archaeology and Paleoenvironmental Studies
   b. Sub Area 2: Physical Anthropology and Primatology

(2) Area II: Socio-cultural Processes in the Contemporary World
   a. Sub Area 1: Culture Contact, Development, and World Problems
   b. Sub Area 2: Symbolic, Linguistic, and Cognitive Analysis

(3) Area III: General Theory

The minimum departmental requirement is that each MA candidate must have taken, prior to graduation, 18 units of course weight in the above sub-areas. The topic requirements may be met before entering the MA program as an undergraduate or as a special student.

In addition to the course requirements, candidates must prepare an acceptable MA thesis according to Faculty of Graduate Studies and Research regulations and Department expectations. Candidates must demonstrate to the satisfaction of the examining committee proficiency in the handling of any research tools necessary for the MA thesis.

The department requires that all candidates for the MA degree demonstrate proficiency in a language other than English (not including computer languages).

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

Normally, two years of study and research are needed to complete the requirements for the degree of MA. There is a four year time limit (§202.13).

204.6.3 The Degree of PhD

Program Requirements:

Students entering the program without an MA degree in anthropology must first satisfy the MA requirements.

Requirements for the PhD degree, in addition to those of the Faculty of Graduate Studies and Research, are:

(1) In consultation with the thesis supervisory committee, additional courses may be taken for graduate credit.

(2) Submission of a satisfactory research proposal and passing a candidacy examination.

(3) Submission of a thesis of publishable quality, based on original advanced research and theoretical interpretation.

(4) If the MA language requirement has not been met previously, it must be met prior to the Candidacy examination.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

Normally, all requirements for the degree of PhD can be completed in three years of study and research. There is a six-year time limit (see §202.13).

204.6.4 Undergraduate Courses

The following may be taken for graduate credit:

ANTHR 403 North American Prehistory
★3 (either term, 3-0-0). Prerequisite: ANTHR 306 or consent of Department. Note: Not open to students who have taken ANTHR 411.

ANTHR 405 Lower Paleolithic Prehistory
★3 (either term, 3-0-0). Prerequisite: ANTHR 306 or consent of Department.

ANTHR 406 Middle and Upper Paleolithic Prehistory
★3 (either term, 3-0-0). Prerequisite: ANTHR 306 or consent of Department.

ANTHR 407 Paleopathology
★3 (either term, 3-0-0). Prerequisite: ANTHR 390 or 490, or consent of Department.

ANTHR 410 Sex and Status in Comparative Perspective
★3 (either term, 3-0-0). Prerequisite: ANTHR 110 or consent of Department.

ANTHR 412 Slavery and Slave Societies
★3 (either term, 3-0-0). Prerequisite: ANTHR 307 or consent of Department. Note: ANTHR 225, or 227, or 277 recommended.

ANTHR 414 Peasant Society and Culture
★3 (either term, 3-0-0). Prerequisite: ANTHR 307 and one other senior-level course.

ANTHR 415 History of Anthropology
★3 (either term, 3-0-0). Prerequisite: ANTHR 201 and 307.

ANTHR 418 Political Anthropology
★3 (either term, 3-0-0). Prerequisite: ANTHR 307 and one other senior-level course.

ANTHR 419 Pastoral Societies
★3 (either term, 3-0-0). Prerequisite: ANTHR 307 or consent of Department.

ANTHR 421 Revitalization Movements in Anthropological Perspective
★3 (either term, 3-0-0). Prerequisite: ANTHR 307 or consent of Department.

ANTHR 422 Ritual and Myth
★3 (second term, 3-0-0). Prerequisite: ANTHR 101, or 201, or 307, or consent of Department.

ANTHR 423 Ecological Anthropology
★3 (either term, 3-0-0). Prerequisite: ANTHR 306 or 307, or consent of Department.

ANTHR 424 Economic Anthropology
★3 (either term, 3-0-0). Prerequisite: ANTHR 307 or consent of Department.

ANTHR 425 Anthropology of Work and Production
★3 (either term, 3-0-0). Prerequisite: ANTHR 307 or consent of Department.

ANTHR 426 Anthropological Perspectives in Ethnomusicology
★3 (either term, 3-0-0). Prerequisite: ANTHR 307 or consent of Department.

ANTHR 427 Creative Expression I
★3 (first term, 3-0-0). Prerequisite: ANTHR 307 or consent of Department.

ANTHR 428 Creative Expression II
★3 (second term, 3-0-0). Prerequisite: ANTHR 427, or consent of Department.

ANTHR 431 Multilingualism
★3 (either term, 3-0-0). Prerequisite: ANTHR 308 or consent of Department.

ANTHR 433 The Ethnographic Study of Meaning
★3 (either term, 3-0-0). Prerequisite: ANTHR 308 or consent of Department.

ANTHR 435 Language Prehistory
★3 (either term, 3-0-0). Prerequisite: ANTHR 308, LING 101/102, or consent of Department.

ANTHR 441 Archaeometry
★3 (first term, 3-0-0). Analytical methodology for interpreting the material record of the past; the structures of materials at the microscopic and macroscopic levels; raw materials and production technologies; provenance; dating; prospection; sampling and measure. Archaeological case studies are used throughout. Prerequisite: ANTHR 306 or consent of Department.

ANTHR 442 Applications of Archaeometry
★3 (second term, 0-0-3). A project course concerned with the interpretation of the material record of the past. Exposure to archaeometric laboratory techniques, and to the interpretation of results. A specific research project is to be undertaken. Prerequisite: ANTHR 441 or consent of Department.

ANTHR 445 Circumpolar Prehistory
★3 (either term, 3-0-0). Prerequisite: ANTHR 246, one other course in anthropology, or consent of Department.

ANTHR 446 Circumpolar Ethnology
★3 (either term, 3-0-0). Prerequisite: ANTHR 246, one other course in anthropology, or consent of Department.

ANTHR 447 Culture and the Individual I
★3 (first term, 3-0-0). Prerequisite: ANTHR 307 or consent of Department.

ANTHR 448 Culture and the Individual II
★3 (second term, 3-0-0). Prerequisite: ANTHR 447 or consent of Department.

ANTHR 450 Kinship and Marriage
★3 (either term, 3-0-0). Prerequisite: ANTHR 213 or 307, or consent of Department. Note: Not open to students with credit in ANTHR 413.

ANTHR 451 Social Structure
★3 (either term, 3-0-0). Prerequisite: ANTHR 307 or consent of Department. Note: Not open to students with credit in ANTHR 413.

ANTHR 455 Aboriginal Rights
★3 (either term, 3-0-0). Prerequisite: An introductory course in social or cultural anthropology, or history, or political science, or sociology, or consent of Department.

ANTHR 461 Theory in Social Anthropology
★6 (3-0-0). Prerequisite: ANTHR 307 or consent of Department.

ANTHR 463 The Origins of Food Production
★3 (either term, 0-3s-0). Prerequisite: ANTHR 306 or consent of Department.

ANTHR 465 Cultural Transmission
★3 (either term, 3-0-0). Prerequisite: ANTHR 307 or EDFDN 410 or consent of Department.

ANTHR 466 Theories of Culture Change
★3 (either term, 3-0-0). Prerequisite: ANTHR 101, or 201, or 307, or consent of Department.

ANTHR 467 Applied Anthropology
★3 (either term, 3-0-0). Prerequisite: ANTHR 101, or 201, or 307, or consent of Department.

ANTHR 470 American Indian Linguistics
★3 (either term, 3-0-0). Prerequisite: ANTHR 308, LING 203, or consent of Department.

ANTHR 471 Readings in Anthropology I
★3 (first term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 472 Readings in Anthropology II
★3 (second term, 0-3s-0). Prerequisite: Consent of department.

ANTHR 473 Dene Society in Anthropological Perspective
★3 (either term, 3-0-0). Prerequisite: ANTHR 101, or 201, or 307, or consent of Department.

ANTHR 478 Advanced Studies in Latin American Indian Communities
★3 (either term, 0-3s-0). Prerequisite: ANTHR 261, or 262, or another course on Latin America, or consent of Department.

ANTHR 479 Geoarchaeology
★3 (first term, 3-0-3). Prerequisite: ANTHR 306 and one of GEOL 102/103, 201/204, 292, GEOG 130/131, or 330. Not open to students who have taken ANTHR 498.

ANTHR 481 Development of Archaeological Method and Theory
★3 (either term, 3-0-0). A survey of the approaches and practices used in archaeology prior to 1960; concepts and models used for interpreting archaeological data and cultural history; the relation of culture historical explanations to general anthropological theory. Prerequisite: ANTHR 306 and three other 400-level units of course weight in Anthropology, or consent of Department.

ANTHR 484 Advanced Readings in Anthropology I
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 485 Readings in Social Anthropology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 486 Advanced Readings in Anthropology II
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 487 Readings in Regional Ethnology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 488 Quaternary Pollen Analysis
★3 (second term, 3-0-3). Prerequisite: Consent of Department.

ANTHR 490 Human Osteology for Archaeologists
★3 (either term, 0-3s-3). Prerequisite: Consent of Department.

ANTHR 491 Stone Tools
★3 (either term, 3-0-3). Prerequisite: ANTHR 306 and one other 400-level course in Anthropology, or consent of Department.

ANTHR 492 Problems in Primate Behavior
★3 (either term, 3-0-0). Prerequisite: ANTHR 392 or consent of Department.

ANTHR 493 Field Methods in Primate Studies
★6 (3-0-3). Prerequisite: ANTHR 392, or equivalent, and consent of Department.

ANTHR 494 Forensic Anthropology
★3 (either term, 0-3s-0). Prerequisite: ANTHR 390 or 490, or consent of Department.

ANTHR 495 Archaeological Methods
★3 (either term, 3-0-3). Prerequisite: ANTHR 306, and one other 400-level course in Anthropology, or consent of Department.

ANTHR 496 Advanced Readings in Anthropology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 497 Peopling of the Americas
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

204.6.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis

ANTHR 502 General Scope of Anthropology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 503 The Anthropology of Conflict
★3 (either term, 0-3s-0). Prerequisite: Consent of department. Restricted to graduate and fourth year honors students in anthropology; other students require consent of department.

ANTHR 506 Ethnological Research Methods, Socio-Cultural Processes in the Modern World
★3 (either term, 0-3s-0). Note: Not open to students with credit in ANTHR 504.

ANTHR 508 Methods in Linguistic Anthropology
★3 (either term, 0-3s-3). Prerequisite: Consent of Department.

ANTHR 509 Symbolic and Cognitive Analysis
★3 (either term, 0-3s-0). Note: Not open to students with credit in ANTHR 504.

ANTHR 510 Theory of Culture
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 511 Ethnographic Field Methods I
★3 (first term, 0-3s-0). Prerequisite: Consent of Department. Note: Not open to students with credit in ANTHR 505.

ANTHR 512 Ethnographic Field Methods II
★3 (second term, 0-3s-0). Prerequisite: ANTHR 511 or consent of Department. Note: Not open to students with credit in ANTHR 505.

ANTHR 513 The Transmission of Culture: Enculturation
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 514 The Transmission of Culture: Development and Change
★3 (either term, 0-3s-0).

ANTHR 516 Selected Problems of Modern East Asia
★3 (either term, 0-3s-0). Prerequisite: Consent of department. Restricted to graduate students in anthropology; other students require consent of Department.

ANTHR 521 Topics in Medical Anthropology
★3 (second term, 0-3s-0). Prerequisite: ANTHR 393 or 407; or consent of Department.

ANTHR 530 Comparative Agrarian Societies
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 535 Anthropology and the Nation-state
★3 (either term, 0-3s-0). Prerequisite: Consent of Department. Restricted to graduate students in Anthropology, Sociology, Political Science, or Economics.

ANTHR 537 Seminar in Anthropology of Development
★3 (either term, 0-3s-0). Prerequisite: Consent of Department. Restricted to graduate and fourth year honors students in anthropology.

ANTHR 540 Conference Course in Regional Ethnology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 541 Conference Course in Regional Archaeology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 542 Individual Research
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 544 Advanced Readings in Social Anthropology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 549 Advanced Readings in Regional Ethnology
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 550 Topics in Social and Cultural Anthropology I
★3 (first term, 0-3s-0). Prerequisite: Consent of Departmer

ANTHR 551 Topics in Social and Cultural Anthropology II
★3 (second term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 552 Topics in Archaeology and/or Physical Anthropology I
★3 (first term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 553 Topics in Archaeology and/or Physical Anthropology II
★3 (second term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 554 Seminar in Social and Cultural Anthropology I
★3 (first term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 555 Seminar in Social and Cultural Anthropology II
★3 (second term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 556 Seminar in Archaeology and/or Physical Anthropology I
★3 (first term, 0-3s-0). Prerequisite: Consent of Department.

ANTHR 557 Seminar in Archaeology and/or Physical Anthropology II
★3 (second term, 0-3s-0). Prerequisite: Consent of Department.

ITHR 558 Contemporary Problems in thropology I
(first term, 0-3s-0). Prerequisite: Consent of Depart-nt.

ITHR 559 Contemporary Problems in thropology II
(second term, 0-3s-0). Prerequisite: Consent of partment.

ITHR 581 Contemporary Archaeological Method d Theory
(either term, 0-3S-0). Prerequisite: ANTHR 481, or nsent of Department.

ITHR 591 Advanced Readings in Archaeology
(either term, 0-3s-0). Prerequisite: Consent of De-rtment.

ITHR 593 Evolution and Social Life
(either term, 0-3s-0). Prerequisite: Consent of De-rtment.

T D 594 Quaternary Environments
(3-0-0). Prerequisite: GEOL 492 or GEOG 432 or a ated 400-level course in Anthropology, Botany, Geol-y, Zoology, Forest Science or Soil Science. (Offered ntly by the Departments of Anthropology and Geol-y). [Geology].

NTHR 595 Seminar in Archaeology
(either term, 0-3s-3). Prerequisite: Consent of epartment.

NTHR 598 Prehistoric Cultural Ecology
(either term, 0-3s-0). Prerequisite: Consent of epartment.

NTHR 599 Seminar in Paleoenvironmental Studies
(second term, 0-3s-0). Prerequisite: ANTHR 488, d 498, or consent of Department.

NTHR 616 Topics in Social and Cultural nthropology I
(first term, 0-3s-0). Prerequisite: Consent of De-rtment.

NTHR 617 Topics in Social and Cultural nthropology II
(second term, 0-3s-0). Prerequisite: Consent of epartment.

NTHR 618 Topics in Archaeology and/or Physical nthropology I
(first term, 0-3s-0). Prerequisite: Consent of De-rtment.

NTHR 619 Topics in Archaeology and/or Physical nthropology II
(second term, 0-3s-0). Prerequisite: Consent of epartment.

NTHR 620 Seminar in Social and Cultural nthropology I
(first term, 0-3s-0). Prerequisite: Consent of De-rtment.

NTHR 621 Seminar in Social and Cultural nthropology II
(second term, 0-3s-0). Prerequisite: Consent of epartment.

NTHR 622 Seminar in Archaeology and/or hysical Anthropology I
(first term, 0-3s-0). Prerequisite: Consent of De-rtment.

NTHR 623 Seminar in Archaeology and/or hysical Anthropology II
(second term, 0-3s-0). Prerequisite: Consent of epartment.

NTHR 624 Contemporary Problems in nthropology I
(first term, 0-3s-0). Prerequisite: Consent of De-rtment.

NTHR 625 Contemporary Problems in nthropology II
(second term, 0-3s-0). Prerequisite: Consent of epartment.

04.7 Applied Sciences in Medicine

epartment of Applied Sciences in Medicine
0-102 Clinical Sciences Building
niversity of Alberta
dmonton, Alberta T6G 2G3

04.7.1 General Information

Research facilities and lecture courses for graduate rograms are offered by the Department of Applied ciences in Medicine. The Department offers programs leading to the degrees of Master of Science and Doctor of Philosophy, the latter being offered as a part of the PhD in medical sciences interdisciplinary program (see §204.49). By special arrangement, students may register in other departments but carry out their research and be co-supervised within the Department of Applied Sciences in Medicine.

The areas most actively encouraged for research and education are: medical physics, clinical and biomedical engineering, medical informatics, and medical instrumentation.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with a grade point average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from another institution, and a TOEFL score of 550 or higher where applicable (refer to §202.2.2).

Financial Assistance:

Financial assistance is available to students in the form of graduate research assistantships and through application to external agencies.

204.7.2 The Degree of MSc

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student; however, the MSc program offered by the Department normally consists of a minimum of 12 units of course weight in graduate courses and a thesis.

There is no language requirement for the MSc.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of research undertaken; however, a minimum of two years is normally required.

204.7.3 The Degree of PhD

Program Requirements:

The PhD program is offered as part of the medical sciences interdisciplinary program and normally consists of five single-term graduate courses (or equivalent) and the preparation and defence of a dissertation on an approved topic.

No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

Normally, a minimum of three years are required to complete the PhD.

204.7.4 Undergraduate Courses

ASM 475 Introduction to Medical Physics
★3 (first term, 3-0-0). Gives an overview of the practical applications of physics in modern clinical medicine. Covers the use of radiation and radioisotopes in therapy and diagnosis, nuclear medicine, medical imaging (via x-rays, gamma rays, nuclear magnetic resonance, positron emission), bio-electricity and -magnetism, optics, acoustics, etc. Prerequisite: PHYS 271 or equivalent.

204.7.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis

ASM 501 Hospital Information Systems
★3 (either term, 3-0-0). Detailed study of an integrated hospital information system, for lessons in effectiveness, efficiency and elegance, as a vehicle for learning design. Covers program structures and algorithms, data representations and structures, user-visible aspects; stresses soundness and maintainability of programs. Involves a major creative project. Prerequisite: Graduate-level competence in Cobol.

ASM 509 Topics in Medical Informatics
★3 (either term, 3-0-0). Individual sections dealing with such topics as medical databases, biostatistical processing. Prerequisite: Consent of instructor.

EE AS 512 Physical Measurements in Medicine
★3 (either term, 3-1s-0). Properties of the cell membrane, Nernst-Planck equation, Donnan membrane, constant field membrane, membrane impedance. Action potentials, voltage clamp measurements, membrane conductance, H-H equations, nerve conduction. Mathematical models of the axon. Electrodes. Gas and blood gas analysis. The ECG, EEG, and EMG, origin and type of these signals, measurement techniques. Blood flow and blood pressure measurements (invasive and non-invasive). Safety aspects of electrical equipment in medicine. Prerequisite: Consent of Department.

ASM 513 Topics in Biomedical Engineering
★3 (either term, 3-0-0). Individual sections covering such topics as non-ionizing radiation, neurophysiological signal processing. Prerequisite: EE AS 512 or consent of instructor.

EE AS 540 Digital Computer Processing of Images
★3 (either term, 3-0-3). Extension of sampling theory and the Fourier transform to two dimensions, pixel operations including gray-level modification, algebraic and geometric transformations. The design of spatial filters for noise reduction, image sharpening and edge enhancement and some discussion of interpolation techniques. An introduction to the concepts of image restoration from known degradations and the reconstruction of images from parallel and fan projections. Prerequisite: E E 538 or consent of instructor.

ASM 575 Magnetic Resonance in Biology and Medicine I
★3 (first term, 3-0-0). The physical principles behind the application of nuclear magnetic resonance spectroscopy in fields from biochemistry to medicine. Topics include: Fourier transform NMR, multipulse techniques, 2-dimensional NMR, relaxation theory, *in vivo* spectroscopy, NMR imaging. Designed for advanced honors and graduate students interested in the application of NMR to biological systems. Intended to be followed by BIOCH 575. Offered in alternate years. Prerequisite: Consent of the instructor.

ASM 579 Topics in Medical Physics
★3 (second term, 3-0-0). Individual sections dealing with such topics as computed tomography, nuclear magnetic resonance, therapeutic radiation. Prerequisite: PHYS 475, 477 or consent of the instructor.

ASM 599 Project in Applied Sciences in Medicine
★3 (either term, 0-0-6). Practical application of science to problems in health care; involves report on problem and alternative solutions, plus complete demonstration and documentation of chosen solution. Prerequisite: Any ASM course or consent of department.

ASM 600 Seminars in Applied Sciences
★2 (0-2s/2-0). A series of seminars designed to expose graduate students to the various areas of research and to provide a forum for progress reports in individual areas. Seminars from research workers from inside and outside the University will be included. Seminars are held in an informal atmosphere with ample opportunity for discussion.

ASM 609 Advanced Topics in Medical Informatics
★3 (either term, 3-0-0). Prerequisite: Consent of department.

ASM 613 Advanced Topics in Biomedical Engineering
★3 (either term, 3-0-0). Prerequisite: Consent of department.

ASM 679 Advanced Topics in Medical Physics
★3 (either term, 3-0-0). Prerequisite: Consent of department.

204.8 Art and Design

Department of Art and Design
3-98 Fine Arts Centre
University of Alberta
Edmonton, Alberta T6G 2C9

204.8.1 General Information

The Department of Art and Design offers graduate programs leading to the Master of Visual Arts degree in a wide range of studio disciplines. The Department also offers graduate programs leading to the Master of Arts degree in history of art and design.

Programs leading to the MVA degree in studio are designed to provide advanced studies in industrial design, painting, printmaking, sculpture and visual communication design.

Programs leading to the MA degree in the history of art and design provide for advanced study and research with a concentration on the 19th and 20th centuries.

Graduate students in studio are provided with adequate independent working spaces and with access to all the equipment necessary to develop their studies and explorations. A well-endowed University library and a departmental slide library holding over 120,000 slides provide reference material. Twenty-five full-time members in the academic staff are available for supervision and discussion.

Inquiries should be addressed to the Coordinator of Graduate Studies, Department of Art and Design.

Entrance Requirements:

The Department's minimum admission requirements are a general undergraduate degree with a grade point average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (refer to §202.2.2).

Financial Assistance:

Graduate teaching and research assistantships and a number of scholarships are available to qualified students. For details, see the Awards section of the Calendar.

204.8.2 The Degree of MVA

Entrance Requirements:

An applicant must normally hold a bachelor's degree in fine arts (or its equivalent) from a recognized institution. Candidates who, in the view of the Department, need to make up prerequisite courses will normally spend one additional year in preparation.

Applicants will be required to submit visual records or a portfolio of work and documentation of their previous experience to the Department before February 15 of the year of application.

Program Requirements:

All candidates require credit in ART 630.

Candidates in fine arts programs require credit in two studio courses at the 600-level and two history of art and design courses chosen from 400 or 500 or 600-level courses with consent of the Department.

Candidates in design programs require credit in:

(1) either of DES 672 or DES 692 and either of DES 673 or DES 693;

(2) DES 675 or DES 695 or a history of art and design course chosen from a 400, 500 or 600 level course in aspects of design in the 19th or 20th centuries.

(3) a course chosen from selected courses offered by other departments, or from courses at the 400, 500 or 600 level in the history of art and design, or courses in studio or design theory and technology at the 400 or 500 level in an area other than the student's own division. Consent of the Department is required.

Course work must be completed before commencement of the thesis. First term studio courses may not be repeated; however, second term studio courses may be repeated with consent of the Department.

After all other program requirements have been satisfactorily met, candidates must make a major presentation of their creative work. Such a presentation will be considered the equivalent of a master's thesis. The Department of Art and Design reserves the right to select and retain up to two works from the final MVA thesis presentation.

There is no language requirement for the degree of MVA.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

Candidates will normally require two academic years to complete their program of studies.

204.8.3 The Degree of MA in the History of Art and Design

Entrance Requirements:

An applicant must normally hold an Honors degree in the History of Art (or its equivalent) from a recognized institution.

Applicants with a bachelor's degree other than History of Art will be considered for admission provided that an adequate background in the History of Art, equivalent to an Honors degree in the discipline, can be demonstrated.

Program Requirements:

Applicants who are accepted will normally require two academic years in residence to complete their program of studies. Exceptions to this regulation will require the consent of the Department and the Faculty of Graduate Studies and Research.

Candidates who, in the view of the Department, need to make up prerequisite courses will normally have to make up the deficiencies prior to acceptance into the graduate program.

The graduate program consists of two phases:

Phase I (first year)

In the first year of the program students will be required to take:

(1) 24 approved units of course weight chosen from History of Art and Design offerings at the 500- and 600-levels

(2) three units of course weight in a 600-level graduate seminar

(3) a translation test in a language other than English, normally French, German, or Italian.

Phase II (second year)

Admission to Phase II is contingent upon the satisfactory completion of all the requirements in Phase I. Course work from Phase I may not be repeated.

Phase II consists of the preparation, presentation and defense of a master's thesis on a topic approved by the Department.

Length of Program:

Applicants who are accepted will normally require two years to complete their program of studies. Candidates who, in the view of the Department, need to make up prerequisite courses will normally spend a longer period of time to complete their graduate program.

204.8.4 Graduate Course

Studio

ART 612 Painting: Concepts, Analysis, and Criticism
★12 (first term, 0-3s-18).

ART 613 Painting: Development of Concepts, Analysis, and Criticism
★12 (second term, 0-3s-18).

ART 622 Printmaking: Concepts, Analysis, and Criticism
★12 (first term, 0-3s-18).

ART 623 Printmaking: Development of Concepts Analysis and Criticism.
★12 (second term, 0-3s-18).

ART 630 Seminar in Related Disciplines
★3 (0-1s-0).

ART 662 Sculpture: concepts, analysis and criticism
★12 (first term, 0-3s-18).

ART 663 Sculpture: development of concepts, analysis, and criticism
★12 (second term, 0-3s-18).

DES 672 Industrial Design: Concepts, Analysis and Criticism
★10 (first term, 0-2s-16).

DES 673 Industrial Design: Conceptual Analysis and Practical Applications
★10 (second term, 0-2s-16).

DES 675 Industrial Design: Directed Readings
★3 (either term, 0-3s-0).

DES 692 Visual Communication Design: Concepts, Analysis and Criticism
★10 (first term, 0-2s-16).

DES 693 Visual Communication Design: Conceptual Analysis and Practical Applications
★10 (second term, 0-2s-16).

DES 695 Visual Communication Design: Directed Readings
★3 (either term, 0-3s-0).

History of Art and Design

THES 900 Thesis
THES 999 Thesis

ART H 503 Advanced Studies in Iconography
★3 (either term, 0-3s-0). Iconographical themes used in the art of the fifteenth to the nineteenth centuries. Intended for MA (History of Art and Design) students. Prerequisite: Consent of department.

ART H 504 Studies in the Relationship of the Visual Arts and Literature
★3 (either term, 3-0-0). Topics in the history of art studied with particular reference to the interaction of the visual arts (painting, sculpture, architecture) with international literature. Prerequisite: One senior-level Art History course, one senior-level course in literature, and reading knowledge of one relevant language other than English, and consent of department. Corequisite: C LIT 504.

ART H 508 Special Topics II
★3 (either term, 0-3s-0). Topics other than those listed in 500-level courses. Intended for MA (History of Art and Design) students. Prerequisite: Consent of department.

ART H 571 Advanced Studies in Art from the First Half of the Nineteenth Century
★3 (either term, 0-3s-0). Intended for MA (History of Art and Design) students. Prerequisite: Consent of department.

ART H 572 Advanced Studies in Art from the Second Half of the Nineteenth Century
★3 (either term, 0-3s-0). Intended for MA (History of Art and Design) students. Prerequisite: Consent of department.

ART H 574 Advanced Studies in Nineteenth-Century Design
★3 (either term, 0-3s-0). Intended for MA (History of Art and Design) students. Prerequisite: Consent of department.

ART H 581 Advanced Studies in Art from the First Half of the Twentieth Century
★3 (either term, 0-3s-0). Intended for MA (History of Art and Design) students. Prerequisite: Consent of department.

ART H 582 Advanced Studies in Art from the Second Half of the Twentieth Century
★3 (either term, 0-3s-0). Intended for MA (History of Art and Design) students. Prerequisite: Consent of department.

ART H 583 Advanced Studies in Canadian Art in the Twentieth Century
★3 (either term, 0-3s-0). Intended for MA (History of Art and Design) students. Prerequisite: Consent of department.

ART H 584 Advanced Studies in Twentieth-Century Design
★3 (either term, 0-3s-0). Intended for MA (History of Art and Design) students. Prerequisite: Consent of department.

ART H 602 Directed Readings in Art and Design
★3 (either term, 0-3s-0). Intended for MA (History of Art and Design) students. Prerequisite: Consent of department.

204.9 Biochemistry

Department of Biochemistry
474 Medical Sciences Building
University of Alberta
Edmonton, Alberta T6G 2H7

204.9.1 General Information

The Department of Biochemistry offers programs leading to the degrees of Master of Science and Doctor of Philosophy. Both require the completion of a research program and the preparation of a thesis.

The research interests of the faculty members cover a broad spectrum, including nucleic acid-protein interactions, regulation of gene expression, structure and function of proteins, muscle biochemistry, molecular virology, mechanisms of enzyme catalysis, lipid and lipoprotein metabolism, metabolic regulation, the structure, function and assembly of biological membranes, receptor-mediated endocytosis, and mechanisms of action of anti-cancer drugs.

The Department, which is mainly located on two floors (55,000 square feet) of the Medical Sciences Building, is extremely well-endowed in terms of both equipment and support facilities. These include state-of-the-art X-ray diffractometers and computer facilities, protein sequencers, amino acid analyzers, peptide synthesizers, analytical and preparative ultra-centrifuges, fluorimeters, spectropolarimeters, TEM/STEM electron microscope, scanning calorimeters, high-field NMR spectrometers, as well as numerous spectrophotometers, high-pressure liquid chromotography instruments, centrifuges, scintillation counters, and extensive tissue culture facilities. It is also the home of The MRC Group in Protein Structure and Function (Drs. Smillie, Kay, Sykes, James, Hodges) and to four members of the Lipid and Lipoprotein Research Group (Drs. Vance, Brindley, Schneider, Ryan). Research funding, primarily from agencies such as the Medical Research Council of Canada and the National Cancer Institute, amounts to over $4.1 million per year.

Entrance Requirements:

The Department generally does not consider accepting students with an overall grade point average of less than 7.0 in their undergraduate years at the University of Alberta, or an equivalent qualification from another institution, and (where applicable) a TOEFL score of 600 (see §202.2.2).

Financial Assistance:

Students who are accepted into the graduate program are encouraged to apply for studentships from either the

ical Research Council of Canada ($14,140 per
m) or the Alberta Heritage Foundation for Medical
earch ($14,140 per annum). All successful applicants
ither agency are eligible to receive a research
rance of $1,000 from the Heritage Foundation to
y costs (including travel to scientific meetings) of
research project. Graduate assistantships are also
able from the Department.

4.9.2 The Degree of MSc

gram Requirements:

Course requirements depend on the area of
ialization and the undergraduate background of the
ent. However, all students are required to take a
num of six units of course weight in senior-level
or 500 series) biochemistry courses, plus such
ional courses, offered by this or other departments,
e individual student's supervisor feels are relevant
e student's program. In addition, all students are
ired to enroll and present two seminars in BIOCH
(as an audit in the first and for credit in the second
of their program), and to participate in other seminar
ses (BIOCH 623, 626, 640) that are appropriate to
research program.
All candidates for the MSc degree must prepare an
ptable thesis describing the results of their research
ities, and be examined orally on the thesis by a
mittee formed according to FGSR regulations.
The Department does not require knowledge of any
uage other than English for the MSc degree.

gth of Program:

The time required to complete the program will vary
rding to the previous training of the applicant and
nature of the research undertaken, but normally, two
ree years of study and research is required.

4.9.3 The Degree of PhD

gram Requirements:

Course requirements depend upon the area of
cialization and the undergraduate background of the
ent. However, all students are required to take a
mum of 12 units of course weight in senior-level
or 500 series) biochemistry courses, plus such
tional courses, offered by this or other departments,
e individual student's supervisor feels are relevant
e student's program. In addition, all students are
ired to enroll and present two seminars in BIOCH
(as an audit in the first and for credit in the second
of their program), to participate in other seminar
ses (BIOCH 623, 626, 640) that are appropriate to
research program, and in the final year of the
ram, to present a BIOCH 671 seminar describing
results of their research program.
All candidates for the PhD degree must prepare an
ptable thesis describing the results of their research
vities, and be examined orally on the thesis by a
mittee formed according to FGSR regulations.
The Department does not require knowledge of any
uage other than English for the PhD degree.

gth of Program:

The time required to complete the PhD will vary
rding to the previous training of the candidate, but
nally, a minimum of four years of study and research
quired. Students already possessing an MSc degree
Biochemistry may be able to complete the PhD
gram within three years.

4.9.4 Graduate Courses

BIOCH 301 is a prerequisite to all graduate courses.
n the exception of BIOCH 501 and the seminar
rses (BIOCH 623, 626, 640 and 671), graduate
rses are offered in alternate years. Those which will
resented in 1990/91 are BIOCH 510, 511, 512, 581,

THES 900 Thesis
THES 999 Thesis

CH 450 The Molecular Biology of Mammalian
uses
(second term, 3-0-0). Prerequisite: BIOCH 301 or
ivalent and consent of department. Offered in alter-
e years.

CH 500 Physical Biochemistry
(3-0-0). Prerequisite: BIOCH 301 or equivalent, and
EM 270 or 372. Offered in alternate years.

CH 501 Advanced Laboratory
(0-0-8). Note: Available to fourth-year honors and
cialization in biochemistry students only.

D 510 Lipid and Lipoprotein Metabolism
(second term, 3-0-0). Prerequisite: BIOCH 301 or
ivalent. Offered in alternate years.

BIOCH 511 Enzymology
★3 (first term, 3-0-0). Prerequisite: BIOCH 301 or equivalent and CHEM 270 or 372, or consent of department. Offered in alternate years.

BIOCH 512 Genetic Control Mechanisms
★3 (second term, 3-0-0). Prerequisite: BIOCH 301 or equivalent. Offered in alternate years.

BIOCH 521 Nucleic Acids
★3 (first term, 3-0-0). Prerequisite: BIOCH 301 or equivalent. Offered in alternate years.

BIOCH 531 Protein Structure
★3 (second term, 3-0-0). Prerequisite: BIOCH 301 or equivalent, CHEM 270 or 372. Note: Designed for advanced Honors and Graduate students and offered in alternate years.

BIOCH 575 Magnetic Resonance in Biology and Medicine II
★3 (second term, 3-0-0). Prerequisite: ASM 575. Offered in alternate years.

BIOCH 590 Structure and Function of Biological Membranes
★3 (first term, 3-0-0). Prerequisite: BIOCH 301 or equivalent or consent of department.

BIOCH 609 Macromolecular Structure Analysis II
★3 (second term, 3-0-3). Prerequisite: Consent of the instructor. Maximum enrollment of 10 students. Offered in alternate years.

BIOCH 623 Special Topics in Research on Poly—nucleotides
★2 (0-1s-0).

BIOCH 626 Special Topics in Protein Research
★2 (0-1s-0). Prerequisite: BIOCH 511 and 531 or consent of department.

BIOCH 640 Special Topics in Research on Biomembranes
★2 (0-1s-0). Prerequisite: BIOCH 590 or consent of Department.

BIOCH 671 Recent Advances
★4 (0-2s-0).

204.10 Biology

204.10.1 General Information

A number of graduate courses in biology are offered by members of the Departments of Medical Microbiology, Botany, Entomology, Genetics, Microbiology, and Zoology. As there is, however, no formal graduate program in general biology, prospective students should apply to the department most appropriate to their interests.

204.10.2 Graduate Courses

BIOL 315 History and Theory of Biology
★3 (first term, 3-0-0). An outline of biological discovery from early times to the present, and of the principal ideas stemming from or influencing the life sciences; both in relation to social, historical and cultural developments. Especially recommended to honors and specialization students in the biological subjects, but open to other third and fourth year students interested in the history of science as a force in the development of culture. Prerequisite: A 200-level Biological Science course.

BIOL 445 Cell Physiology
★3 (second term, 3-0-0). Current advances in cell biology. The integration of biochemical and structural changes with cell function. Designed for third and fourth year honors and specialization students in the biological sciences. Prerequisite: A 300-level biological sciences course or consent of department.

BIOL 507 Taxometrics
★3 (first term, 3-0-0). Theoretical and practical aspects of quantitative classification. Relation of taxonomic systems to information retrieval and Infectious Diseases. Prerequisite: Consent of department of Medical Microbiology and Infectious Diseases.

BIOL 585 Electron Microscopy
★3 (second term, 0-0-6). Prerequisite: BIOL 584 strongly recommended; PHYS 319 recommended. Note: Enrolment strictly controlled due to limited facilities; consent of the instructor required.

BIOL 620 Seminar in Selected Topics of Modern Biology
★according to work done to a maximum of 3 (second term, 0-3s-0). Prerequisite: Consent of department.

BIOL 684 Current Topics in Cellular Organization
★3 (first term, 3-0-0). A discussion of current research on the correlation of structure and function of eukaryotic cells. Prerequisite: Consent of department.

204.11 Botany

Department of Botany
B414 Biological Sciences Building
University of Alberta
Edmonton, Alberta T6G 2E9

204.11.1 General Information

The Department of Botany offers programs leading to the degrees of Master of Science and Doctor of Philosophy.

The Department has a phytotron comprising 18 plant growth rooms, 23 greenhouses, 40 plant growth chambers, and numerous cold storage facilities. It has well-equipped research laboratories for investigations in the following fields: Structural Botany — studies of vascular plant development emphasizing seed plant embryology; light and electron microscopy, and histochemistry; Biochemistry — the biochemistry and molecular biology of seed germination; pathways for amino acid biosynthesis, studies of transmethylation and transamination reactions, intermediary metabolism of higher plant tissues; Bryology — monographic and evolutionary studies of mosses; ecology and taxonomy of arctic bryophytes; ecology and development of peatlands; Ecology — studies of aquatic, wetland, grassland, parkland, mountain, boreal, sub-arctic and arctic plant communities, with emphasis on structure, dynamics, classification, productivity, and physiological ecology; Morphogenesis — the control of growth and development in sun and shade conditions; Mycology — taxonomic and ecological studies emphasizing relationships with other plants; Paleobotany — studies of mega-fossils, with emphasis on vascular plants; Phycology and Limnology — productivity; ecological, physiological, paleolimnological and distribution studies of phytoplanktonic and benthic algae in lakes and rivers; ecological studies of submerged hydrophytes; Physiology — phytochrome and hormonal regulation of growth and development; Taxonomy — studies of western Canadian and arctic taxa using a variety of modern techniques including cytology and chemotaxonomy.

A number of undergraduate courses offered by the Department of Botany are also available and may be taken in conjunction with graduate courses. Senior and advanced courses offered by other departments in the Faculty of Science may be accepted as part of graduate programs in botany. The Chair of the Department of Botany must be consulted in the selection of such courses.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution. In order for a student whose first language is not English to be accepted into a graduate program in the Department formal evidence must be provided that the candidate has achieved a TOEFL score of 550 (600 to be considered for a teaching assistantship).

Financial Assistance:

Graduate assistantships are available for qualified students. Financial assistance is also available through research grants to staff members in some fields of botany.

204.11.2 The Degree of MSc

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student; however, the MSc program normally consists of three single-term courses and a thesis.

There is no language requirement for the degree of MSc.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

Normally, three years of full-time study are required to complete the MSc.

204.11.3 The Degree of PhD

Program Requirements:

The PhD program normally consists of 12 units of course weight and the preparation and defence of a thesis on an approved topic.

No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, four years of full-time study are normally required.

204.11.4 Undergraduate Courses

The following undergraduate courses may be taken for graduate credit. Some courses may be offered only in alternate years.

BOT 302 Biology of Algae
★3 (first term, 3-0-3). Origins and evolution of algae; their comparative morphology, life histories and taxonomy; aspects of their ecology and physiology; adaptations to different habitats and environments; algae and symbiosis; economic aspects. Prerequisite: BOT 201. Offered in alternate years.

BOT 305 Biology of Bryophytes
★3 (second term, 3-0-3). The identification, classification and morphology of mosses, hepatics, and hornworts. Special emphasis is given to phylogeny and ecology of mosses. Lectures include such topics as botanical nomenclature and cladistics as applied to bryophytes, phytogeography, and origins of land plants. The laboratories stress the comparative structure of bryophyte families and genera. Prerequisite: BOT 201. Offered in alternate years.

BOT 306 Biology of the Fungi
★3 (first term, 3-0-3). A systematic review of the major divisions and orders of the fungi with special emphasis on the identification and characterization of fungal groups which are economically important or significant components of the mycroflora of Western Canada. Traditional methods of handling and classifying the fungi will be discussed with reference to recent investigations concerning structure, ultrastructure, biochemistry and genetics. Ecological strategies of saprophytic fungi, and mechanisms of pathogenesis in species parasitic on plants, mammals, fish, reptiles and other animals, will be surveyed and compared. Current theories on the origin and evolution of fungi will be discussed. Prerequisite: BOT 201 or PL SC 380. Offered in alternate years.

BOT 310 Morphology and Evolution of Seed Plants
★3 (second term, 3-0-3). A morphological and evolutionary survey of seed plants. Discussion based primarily on living plants but with the inclusion of paleobotanical evidence. Emphasis upon seed ferns, cycads, conifers, dicotyledonous and monocotyledonous plants. (Offered in alternate years). Prerequisite: BOT 210.

BOT 330 Vegetation Science and Mathematical Ecology
★3 (second term, 3-0-3). Methods course consisting of: description, classification, and ordination of plant communities; inventory and mapping of vegetation; detection and description of spatial patterns and associations within and among plant populations; theory and practice of sampling; interpretation of field data. Lab consists of 8 three-hour exercises. Prerequisite: BOT 230 and 231, MATH 115, STAT 237 or equivalents. Offered in alternate years.

BOT 411 Paleobotany
★3 (first term, 3-0-3). The fossil record of plants as it relates to the evolutionary history of existing groups. Prerequisite: A 300-level biological or earth sciences course. Offered in alternate years.

BOT 419 Plant Microtechnique
★3 (second term, 3-0-3). Theory and practice of preparing plant cells and tissues for observation with light and scanning electron microscopy. Fixation, dehydration, embedding, sectioning, standard staining procedures, some histo-chemistry, use of light microscope, introduction to modern embedment media. Prerequisite: BOT 219 and a 300-level Botany course. Any course in plant biology recommended. Offered in alternate years.

BOT 431 Ecophysiology Ecology
★3 (first term, 3-0-3). Theory and practice of ecophysiological research. Design of experiment instrumentation, measurement of environmental parameters. Study of physiological responses of plants. Data processing and interpretation of results. Experiments in field and lab (Phytotron). Prerequisite: BOT 230 or 231 and a 300-level Biological or Earth Sciences course. Offered in alternate years.

BOT 433 Lake and Peatland Development
★3 (first term, 3-0-3). An introduction to field and laboratory techniques in studying lake and peatland histories along with a critical evaluation of the parameters used to make interpretations about their history. Parameters discussed include physical, chemical (clastic, organic and fossil pigments), and biotic (bryophytes, pollen, seeds, diatoms, chrysophytes). Both natural development and modified systems will be discussed. Prerequisite: BOT 201 and a 300-level biological or earth sciences course. Offered in alternate years.

BOT 435 Plant Geography
★3 (second term, 3-0-0). The principles of plant geography. Patterns of plant distribution and their interpretation with respect to the evolution of floras. Prerequisite: BOT 210 or 230 or 231 and a 300-level biological or earth sciences course. Offered in alternate years.

BOT 440 Physiology of Growth and Development
★3 (first term, 3-0-0). Lectures and seminars on the involvement of plant growth substances and pigments in the regulation of plant growth and development. The influence of environmental factors on this regulation will be emphasized. Prerequisite: BOT 250 and a 300-level Botany course. Offered in alternate years.

INT D 455 Molecular Plant Development
★3 (second term, 3-0-0). Recent advances in plant molecular biology will be introduced through a study of plant development at the molecular level. The course will examine how developmental processes can be used as model systems to study gene expression in higher plants. Both developmental regulation and stress induced alteration of gene expression will be covered using specific examples. Prerequisite: BOT 382 or PL SC 301. GENET 270 recommended. Offered in alternate years (Offered jointly by the Departments of Botany and Plant Science.) [Botany].

BOT 490 Special Problems
★6 (3-0-3). Research project approved and supervised by a member of the Department of Botany. This is a required course for honors and specialization students to be taken in their final year. Both a report and a seminar discussing the research topic are required. Prerequisite: A 300-level Botany course. Available to fourth year students only.

BOT 491 Special Problems
★3 (either term, 3-0-3). A project approved and supervised by a member of the Department of Botany. Prerequisite: A 300-level Botany course.

BOT 492 Special Problems
★3 (either term, 3-0-3). A project, approved and supervised by a member of the Department of Botany. Note: This course would enable a student to take two one-term projects in the same term or one in each of two different terms. Prerequisite: A 300-level Botany course.

204.11.5 Graduate Courses

The following table lists renumbered graduate courses effective 1990-91:

Old	New	Old	New
BOT 504	BOT 506	BOT 532	BOT 505
BOT 509	BOT 409	BOT 551	BOT 540
BOT 511	BOT 530	BOT 552	BOT 542
BOT 514	BOT 520	BOT 553	BOT 543
BOT 531	BOT 504	BOT 561	BOT 511

The following table lists renumbered graduate courses effective 1991-92:

Old	New
BOT 409	BOT 509

THES 900 Thesis
THES 999 Thesis

Note: Graduate level course will be offered only if the numbers warrant. Contact the department.

BOT 504 Algae: Biology and Identification
★3 (first term, 3-0-3). Treatment of contemporary topics with the laboratory component emphasizing the freshwater biota, and techniques used to study and identify algae. Offered in alternate years.

BOT 505 Biosystematics of teh Mosses
★3 (second term, 3-0-0). Lectures, discussions and surveys of the literature of approaches and techniques for studying the phylogeny of mosses. The course will include a historical review of bryology and invited lectures on such topics as phylogenetics, nomenclature, phenetics, biometric analyses of population, experimental taxonomy and herbarium practices. Offered in alternate years.

BOT 506 Advanced Mycology
★3 (second term, 3-0-0). Reports and discussion of major and current research in the biosystematics and ecology of the fungi. Evaluation of methods of invesitgation in these areas. Offered in alternate years.

BOT 509 Advanced Structural Botany
★3 (second term, 3-0-0). Seminar discussion of current topics in Structural Botany including both research and technical advances. Offered in alternate years.

BOT 511 Advanced Paleobotany
★3 (second term, 3-0-3). Special problems in paleobotany involving laboratory techniques and readings of current literature and oral written presentation. Offered in alternate years.

BOT 520 Advance Taxonomy
★3 (second term, 3-0-0). Seminar course with assign reading, essays, and discussion of modern taxono its principles and problems. Offered in alternate year

BOT 530 Advanced Plant Ecology
★3 (second term, 3-0-0). Seminar discussion of ma and contemporary topics in plant ecology, using gene readings and students' abstracts of published pape Offered in alternate years.

BOT 540 Physiology of Plant Nutrition
★3 (second term, 3-0-0). A survey of the structure a function of plant organelles, tissues and organs as th relate to the long distance transport of nutrients. Partic lar emphasis will be placed on the transfer of materi through the phloem. The course will comprise lectures a written and oral presentations. Offered in alternate yea

BOT 542 The Mineral Nutrition of Plants
★3 (second term, 3-0-0). A broad treatment of t acquisition and utilization of mineral nutrients by high plants. Specific topics will include the effect of pla roots on the solubility and availability of soil minera the role of roots, root hairs, root nodules, and mycorrh in mineral acquisition, mechanisms of ion transp across the plasma membrane, functions of macronutrien micronutrients, and the beneficial elements, chemi composition of plant tissues,and response of plants mineral deficiencies and toxicities. Offered in alterna years.

BOT 543 Plant Stress
★3 (second term, 3-0-0). The response of plants environmental stress. The primary focus will be on me (Al, Mn, Cu, Pb, Ni, Zn) stress, arising from agricultu practices, industrial activity, waste disposal, and urba zation. Specific topics will include uptake and accumulati of toxic metals, the concept of toxicity thresholds, me interactions, the physiology of metal tolerance and to icity, the ecology of metal contaminated sites, evoluti and metal-tolerant ecotypes, the role of Al and Mn i agricultural productivity on acid soils, breeding for me tolerance in crop cultivars, and amelioration of me stress. Other types of plant stress will also be discusse Offered in alternate years.

INT D 551 Advanced Plant Biochemistry
★3 (second term, 3-0-0). Selected topics in plant m tabolism, with particular emphasis on mitochondrial electr transport, phosphorylation, and recent advances in c bon assimilation. Evaluation of current research a methods of investigation in these fields. Offered alternate years. Prerequisite: Consent of instructor; BIO 301 or PL SC 331 and 432. (Offered jointly by the Depa ments of Botany and Plant Science.) [Plant Science]

204.12 Business

Faculty of Business
323 Faculty of Business Building
University of Alberta
Edmonton, Alberta T6G 2R6

204.12.1 General Information

The Faculty of Business offers programs leading the degrees of Master of Business Administration a Master of Public Management, designed for stude preparing for careers in private or public manageme and a Doctor of Philosophy in Business Management

Entrance Requirements:

The minimum admission requirements of the Facu of Business are those of the Faculty of Graduate Studi and Research; namely, an undergraduate degree w an average of at least 6.5 in the last two years undergraduate work (or graduate work) at the Univers of Alberta, or an equivalent qualification from a recogniz institution.

All applicants are required to write the Gradu Management Admission Test, and have their scor forwarded to the appropriate individual (i.e. Associa Dean - MBA/MPM Programs; or the Director - P Program; Faculty of Business). Registration to write GMAT must normally be received by the Educatio Testing Service approximately eight weeks before t test date. Further information and application forms a available from the Student Access Centre, Administrati Building, University of Alberta, Edmonton, Alberta. Althou no arbitrary standard is employed, a score well abo 550 is desirable.

In addition to the above requirements, all stude for whom English is not their native language must w and pass the Test of English as a Foreign Langua Students must obtain a minimum score of 600 bef formal admission approval can be given. Further informat and application forms are available from the Stude Access Centre.

Additional entrance requirements are listed below, der the heading of the specific degree program.

nancial assistance: Master's Programs:

The Faculty of Business has a limited number of duate assistantships which range from $4,116 to 230 (1990-91 scale) depending on the academic tus of the student.

Most graduate assistantships awarded by the Faculty Business will be determined early in June. Applicants o are interested in being considered for such awards strongly urged to complete their applications not r than mid-April. In particular, the Graduate Management mission Test must have been written not later than March sitting of that test.

A limited number of fellowships and scholarships also available. All students applying for these awards ist submit their applications to the Office of Student vards by February 1st.

For more information write to the Associate Dean, BA/MPM Programs, or the Director, PhD Program, culty of Business.

Doctoral Program: The Faculty of Business offers duate assistantships up to a maximum of approximately 6,800 for three terms (1990-91 scale). A number of ractive fellowships are also available (see §206 of this lendar).

04.12.2 The Degree of MBA

ntrance Requirements:

Admission to a program of graduate studies in the culty of Business is based on the applicant's dergraduate grades, three letters of reference, a tement of purpose explaining how the MBA relates to applicant's career goals, and the applicant's Graduate nagement Admission Test score. For candidates erested in this program, work experience is also sirable.

rogram Requirements:

The two-year MBA program is designed for students m various educational backgrounds; no specific dergraduate major is required for entrance. A choice a course-based or thesis-based route is available to ndidates. Students admitted into the program will rmally be classified as Category B master's candidates llowing the definition set out in §202.4(4) of the lendar. Selected individuals who already possess a gnificant portion of the degree training (eg. transfer udents from other recognized MBA/MPM programs) ll be considered for recommendation as Category A aster's candidates. All MBA students are required to mplete a total of 57 units of course weight (including esis or project).

Phase one: The first year of the MBA program ovides an integrated foundation of core courses in havioural, quantitative, and social sciences, and an troduction to the functional areas of accounting, finance, d marketing. Students with a strong background in ny of these areas may be exempted through examination. owever, a student who is exempted from one or more quired first year MBA core courses must take rrespondingly more elective courses to leave the total ngth of the program unaffected. This policy is not tended to affect the programs of students who may ceive transfer credit from other institutions. Completion all 30 units of course weight in the core courses quires one full academic year.

The second phase of the program provides students ith the opportunity to pursue in some depth courses in elds of their choice.

Phase two: The course-based option consists of 27 nits of course weight. BUS 676 and either BUS 678 or IANEC 678 are required, along with 18 units of course eight in elective courses and a project which is equivalent 3 units of course weight.

The thesis-based option consists of 18 units of ourse weight. BUS 676 and either BUS 678 or MANEC 78 are required along with 12 units of course weight in lectives. The thesis is equivalent to nine units of course eight and is undertaken with the supervision of an dviser and a committee. With the approval of the ssociate Dean, up to nine units of course weight in raduate courses offered by other faculties may be aken as electives.

No language other than English is required for the IBA

ength of Program:

The equivalent of two full-time academic years are ormally required to complete the program.

For the thesis-based MBA, the minimum period of esidence is two four-month terms of full-time attendance. he course-based MBA may be taken on a part-time asis; however, the program must be completed within ve consecutive years from initial registration in the rogram.

204.12.3 The Degree of MPM

The Faculty of Business also offers a program which is the public management counterpart of the MBA program; this program leads to the degree of Master of Public Management. The progrm will prepare students for eventual senior management positions in municipal, provincial, and federal governments, and for other public enterprises in Alberta, Canada, and abroad. It will focus on both management theory and skills, and on public issues and policy formulation and implementation.

Entrance Requirements:

Admission to the MPM program in the Faculty of Business is based on the applicant's undergraduate grades, three letters of reference, a statement of purpose explaining how the MPM relates to the applicant's career goals, and the Graduate Management Admission Test score. For candidates interested in this program some work experience is desirable.

Program Requirements:

The MPM degree is a two-year full-time equivalent program designed for applicants with bachelor's degrees in any area. A choice of a course-based or thesis-based route is available. Students admitted into the program will normally be classified as Category B master's candidates following the definition set out in §202.4(4) of the Calendar. Selected individuals who already possess a significant portion of the degree training (eg. transfer students from other recognized MPM programs) will be considered for recommendation as Category A master's candidates. The MPM program normally consists of 60 units of course weight (including a thesis or project).

Phase one: The first phase of the MPM program is designed with core subjects which address the fundamental concepts underlying governmental management and decision-making. These foundation courses are intended to give the student a theoretic base and the tools of analysis upon which advanced classes are built. Students with a strong background in any of the core subject areas offered by the Faculty of Business may be exempted through examination. Completion of all 30 units of course weight in core courses requires the equivalent of one full academic year.

Phase two: The second phase of the program gives students an opportunity to develop some depth and specialization. Elective courses can be chosen from other faculties as well as from a wide range of courses within the Faculty of Business.

For the thesis-based route, the thesis is the equivalent of nine units of course weight counted within the 60 units of course weight requirement. Requirements for the course-based route are a supervised research paper which is the equivalent of one three-weight course, LAW 455, IND R 652, P MGT 654, 674, 676, ECON 558 or other graduate level economics course, and three elective courses.

No language other than English is required for the MPM.

Length of Program:

Two full-time academic years or equivalent are normally required to complete the program.

204.12.4 The MBA-LLB Joint Program

The Faculty of Business and the Faculty of Law offer a program of joint study which permits students to earn both the MBA and LLB degrees in four years.

Each student must apply separately to the Faculty of Law (for admission into the LLB program) and to the Faculty of Graduate Studies and Research (for admission into the MBA program).

In addition, each student must apply to the combined program by completing an MBA-LLB application form available from the Faculty of Law or the Faculty of Business.

In addition to new entrants, students in the first year of either the regular MBA program or the Faculty of Law are eligible to apply for the joint program.

Entrance Requirements:

Acceptance by the Faculty of Graduate Studies and Research (for admission into the MBA program) and by the Faculty of Law (for admission into the LLB program) separately, is a prerequisite for admission into the MBA-LLB program. Admission into each faculty will be determined by the same selection process and criteria as for other students. In addition, each student must be admitted into the combined program; in this case admission will be determined by a selection committee composed of representatives of the Faculty of Law and the Faculty of Business. Since this is a special program, particular attention in the selection process will be given to:

(1) the student's past academic achievement; and

(2) the student's maturity, interest and a rationale of how such a combined program will enhance the student's career and professional skills.

Program Requirements:

The first year of the joint program is taken entirely within one faculty (Law or Graduate Studies and Research), and the second year entirely within the other faculty. The course of study in the third year is divided between the two faculties, with the fourth (final) year's work done entirely in the Faculty of Law.

Academic Standing:

During the first year of the combined program, a student is subject to the academic standing regulations and routes of appeal for grades and for academic standing of the Faculty in which the student is registered.

Therefore, if the student registers in the Faculty of Law in the first year of the joint program, the student shall refer to that Faculty's academic standing regulations and right of appeal procedures.

If the student registers in the Faculty of Graduate Studies and Research in the first year of the joint program, the student shall refer to the Faculty of Graduate Studies and Research's academic standing regulations and right of appeal procedures.

In the second year of the joint program, a student is subject to the academic standing regulations and routes of appeal for grades and for academic standing of the Faculty in which the student is registered.

Therefore, if the student registers in the Faculty of Law in the second year of the joint program, the student shall refer to that Faculty's academic standing regulations and right of appeal procedures.

If the student registers in the Faculty of Graduate Studies and Research in the second year of the joint program, the student shall refer to the Faculty of Graduate Studies and Research's academic standing regulations and right of appeal procedures.

In the third year of the joint program, the student shall be subject to the academic standing regulations and routes of appeal for grades and for academic standing of the Faculty of Graduate Studies and Research.

Since the fourth year's work is done entirely in the Faculty of Law to complete the LLB degree, the student shall register in the Faculty of Law and shall be subject to the academic standing regulations and routes of appeal for grades and for academic standing of the Faculty of Law.

If a student withdraws from one of the degree programs or is required to withdraw because of unsatisfactory academic standing, but wishes to remain in the other degree program, the student may be permitted to continue the program of study in the Faculty in which the student retains good academic standing.

There is no language requirement for the MBA-LLB program.

Length of Program:

Students normally finish all the requirements for the MBA degree, by the end of the third year, and will be awarded the MBA degree at this time. All requirements for the LLB degree will be completed by the end of the fourth year.

204.12.5 The MPM-LLB Joint Program

The Faculty of Business and the Faculty of Law offer a program of joint study which permits students to earn both the MPM and LLB degrees in four years.

Each student must apply separately to the Faculty of Law (for admission into the LLB program) and to the Faculty of Graduate Studies and Research (for admission into the MPM program).

In addition, each student must apply to the combined program by completing an MPM-LLB application form available from the Faculty of Law or the Faculty of Business.

In addition to new entrants, students in the first year of either the regular MPM program or the Faculty of Law are eligible to apply for the joint program.

Entrance Requirements

Acceptance by the Faculty of Graduate Studies and Research (for admission into the MPM program) and by the Faculty of Law (for admission into the LLB program) separately, is a prerequisite for admission into the MPM-LLB program. Admission into each faculty will be determined by the same selection process and criteria as for other students. In addition, each student must be admitted into the combined program; in this case, admission will be determined by a selection committee composed of representatives of the Faculty of Law and the Faculty of Business. Since this is a special program, particular attention in the selection process will be given to:

(1) the student's past academic achievement; and

(2) The student's maturity, interest and a rationale of how such a combined program will enhance the student's career and professional skills.

Program Requirements:

The first year of the joint program is taken entirely within one faculty (Law or Graduate Studies and Research), and the second year entirely within the other faculty. The course of study in the third year is divided between the two faculties, with the fourth (final) year's work done entirely in the Faculty of Law.

Academic Standing:

During the first year of the combined program, a student is subject to the academic standing regulations and routes of appeal for grades and for academic standing of the Faculty in which the student is registered.

Therefore, if the student registers in the Faculty of Law in the first year of the joint program, the student shall refer to that Faculty's academic standing regulations and right of appeal procedures.

If the student registers in the Faculty of Graduate Studies and Research in the first year of the joint program, the student shall refer to the Faculty of Graduate Studies and Research's academic standing regulations and right of appeal procedures.

In the second year of the joint program, a student is subject to the academic standing regulations and routes of appeal for grades and for academic standing of the Faculty in which the student is registered.

Therefore, if the student registers in the Faculty of Law in the second year of the joint program, the student shall refer to that Faculty's academic standing regulations and right of appeal procedures.

If the student registers in the Faculty of Graduate Studies and Research in the second year of the joint program, the student shall refer to the Faculty of Graduate Studies and Research's academic standing regulations and right of appeal procedures.

In the third year of the joint program, the student shall be subject to the academic standing regulations and routes of appeal for grades and for academic standing of the Faculty of Graduate Studies and Research.

Since the fourth year's work is done entirely in the Faculty of Law to complete the LLB degree, the student shall register in the Faculty of Law and shall be subject to the academic standing regulations and routes of appeal for grades and for academic standing of the Faculty of Law.

If a student withdraws from one of the degree programs or is required to withdraw because of unsatisfactory academic standing, but wishes to remain in the other degree program, the student may be permitted to continue the program of study in the Faculty in which the student retains good academic standing.

There is no language requirement for the MPM/LLB program.

Length of Program:

Students normally finish all the requirements for the MPM degree by the end of the third year, and will be awarded the MPM degree at this time. All requirements for the LLB degree will be completed by the end of the fourth year.

204.12.6 The Degree of PhD

Information on the areas of faculty research and other information is contained in a brochure available from the PhD Program Director.

Entrance Requirements:

The program seeks prospective candidates with an excellent scholastic record and a strong interest in research related to their chosen field of business studies. Potential students must have at least a bachelor's degree, which may be from any undergraduate program. Students without an MBA degree are required to demonstrate or obtain competence in the course material of the first year of the MBA program. Applications are evaluated by an admissions committee on the basis of academic potential as evidenced through past grades, the GMAT, letters of recommendation, and a well-written statement of purpose. There are no fixed cut-off levels for consideration (beyond the FGSR minimum admission requirement) but as a guideline, past entrants have scored at least in the ninetieth percentile of the GMAT with a 7.0 grade-point average. International students, who do not have English as a first language, must submit scores on the Test of English as a Foreign Language. A minimum TOEFL score of 600 is required. There is no additional language requirement.

Program Requirements:

The Business PhD program is a research-oriented program which emphasizes knowledge of a major field of business studies, a cognate area, and strong analytical skills. The distinctive feature of business PhD programs, in general, is the concomitant study of related disciplines found in the University, as well as the study of functional fields of business. The program offered by the Faculty of Business at the University of Alberta consists of a major field of study chosen from accounting, finance, industrial relations, marketing, and organizational analysis. In addition, two minors are selected from disciplines which underlie the major field, and/or from functional areas of business which are complementary to the chosen major field.

There are three basic stages in the program. They are the breadth year of provisional candidacy (for students lacking an MBA degree), provisional candidacy (for completion of course work, comprehensive examinations, and the general oral examination), and candidacy (for thesis completion).

All students in the Business PhD program must maintain a minimum cumulative grade point average of 7.0 throughout the course of the program.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The program is a full-time program: candidates are expected to need two to three years to complete the required course work and comprehensive exams and one year to complete the PhD thesis.

204.12.7 The MBA-PhD Joint Program

The Faculty of Business offers a joint MBA-PhD program of study to provide students, who are admitted to the Business PhD program without an MBA degree, the opportunity of obtaining the MBA degree if the requirements of that degree are satisfied.

Admission decisions to each part of the joint program are made by the respective offices. For the PhD program the admission recommendation is made by the PhD office, while admission recommendations to the MBA program are made by the MBA office. Both are subject to the approval of the Faculty of Graduate Studies and Research.

Students are required to meet MBA requirements for qualifying year courses in the first year of the program. In addition, 18 elective units of course weight are required. A minimum of nine units of course weight must be 600-level Business courses. The remaining courses may be chosen, with the approval of the Associate Dean of the MBA Program, from 600-level courses outside the Business Faculty, or from the 700-level Business courses (selected from the approved lists of elective courses contained in a student's major and/or minor areas of PhD concentration). Students must also complete BUS 676, BUS 678 or MANEC 678, and BUS 900. In all cases, the distinct criteria for the MBA program and the PhD program must be met.

Student funding is provided by the PhD program, subject to available funds. In general, those students in the joint program doing MBA qualifying course work receive funding at the qualifying student rate. Until the MBA is completed, any locally-dispersed scholarships are at the master's rate.

The time limit for completion of both degrees is six years with the MBA portion to be completed within four years from initial registration. The combined program requires four years of fees.

Students in the combined MBA-PhD program are subject to the academic standing regulations and routes of appeal for academic standing of the Faculty of Graduate Studies and Research.

A recommendation to withdraw from the MBA-PhD program because of unsatisfactory academic standing shall be made by the Director of the PhD program to the FGSR.

If a student withdraws from the MBA-PhD program and wishes to complete the MBA program, the student must seek admission to the regular MBA program. At the time of withdrawal from the joint program, the student's status, relative to course requirements in the MBA program, will be the decision of the Associate Dean MBA program.

204.12.8 The MPM-PhD Joint Program

The Faculty of Business offers a joint MPM-PhD program of study to provide students, who are admitted to the Business PhD program without an MPM degree, the opportunity of obtaining the MPM degree if the requirements of that degree are satisfied.

Admission decisions to each part of the joint program are made by the respective offices. For the PhD program the admission recommendation is made by the PhD office, while admission recommendations to the MPM program are made by the MPM office. Both are subje to the approval of the Faculty of Graduate Studies a Research.

Students are required to meet MPM requiremen for qualifying year courses in the first year of th program. In addition, nine elective units of course weig are required. These should be 600-level Business cours which may, with the approval of the Associate Dean the MPM Program, be substituted with courses fro outside the Business Faculty, or from 700-level Busine courses (selected from the approved lists of electi courses contained in a student's major and/or min areas of PhD concentration). Students must also comple LAW 455, IND R 652, P MGT 674, P MGT 676, P MG 654, BUS 900, and ECON 558 or another graduate lev course. In all cases, the distinct criteria for the MP program and the PhD program must be met.

Student funding is provided by the PhD progra subject to available funds. In general, those students the joint program doing MPM qualifying course wo receive funding at the qualifying student rate. Until th MPM is completed, any locally-dispersed scholarshi are at the master's rate.

The time limit for completion of both degrees is s years with the MPM portion to be completed within fo years from initial registration. The combined progra will require four years of fees.

Students in the combined MPM-PhD program ar subject to the academic standing regulations and route of appeal for academic standing of the Faculty Graduate Studies and Research.

A recommendation to withdraw from the MPM-Ph program because of unsatisfactory academic standir shall be made by the Director of the PhD program to th FGSR.

If a student withdraws from the MPM-PhD progra and wishes to complete the MPM program, the stude must seek admission to the regular MPM program. the time of withdrawal from the joint program, th student's status, relative to course requirements in th MPM program, will be the decision of the Associa Dean MPM program.

204.12.9 Exchange Program

A joint arrangement between Université Laval a the University of Alberta allows students from o program to attend the other for one or two academ terms. Contact the Business PhD Program office f details.

204.12.10 Graduate Courses

The following table lists the old and the new (effecti 1989) numbers of the graduate courses taught by t Faculty of Business.

Old	New	Old	New
ACCTG 452	ACCTG 512	MANEC 550	MANEC 6
ACCTG 453	ACCTG 522	MANEC 552	MANEC 6
ACCTG 561	ACCTG 612	MANEC 553	MANEC 6
ACCTG 562	ACCTG 624	MANEC 567	MANEC 6
ACCTG 563	ACCTG 614	MANEC 569	MANEC 6
ACCTG 566	ACCTG 666	MARK 458	MARK 50
ACCTG 582	ACCTG 616	MARK 561	MARK 61
ACCTG 601	ACCTG 701	MARK 564	MARK 62
ACCTG 602	ACCTG 702	MARK 565	MARK 61
ACCTG 603	ACCTG 703	MARK 566	MARK 67
BUS 502	BUS 632	MARK 567	MARK 63
BUS 519	BUS 664	MARK 568	MARK 65
BUS 553	BUS 654	MARK 569	MARK 66
BUS 555	BUS 676	MARK 570	MARK 64
BUS 556	BUS 678	MARK 571	MARK 68
FIN 456	FIN 502	MARK 601	MARK 70
FIN 550	FIN 698	MARK 602	MARK 70
FIN 562	FIN 614	MARK 603	MARK 70
FIN 563	FIN 634	MGTSC 461	MGTSC 5
FIN 564	FIN 654	MGTSC 462	MGTSC 5
FIN 565	FIN 686	MGTSC 500	MGTSC 5
FIN 567	FIN 616	MGTSC 503	MGTSC 6
FIN 568	FIN 644	MGTSC 504	MGTSC 6
FIN 601	FIN 701	MGTSC 520	MGTSC 6
FIN 602	FIN 702	MGTSC 550	MGTSC 6
FIN 603	FIN 703	MGTSC 601	MGTSC 7
IND R 561	IND R 652	MGTSC 602	MGTSC 7
IND R 562	IND R 672	MGTSC 603	MGTSC 7
IND R 563	IND R 604	ORG A 470	ORG A 5
IND R 564	IND R 605	ORG A 472	ORG A 5
IND R 601	IND R 701	ORG A 552	ORG A 6
IND R 602	IND R 702	ORG A 557	ORG A 6
IND R 603	IND R 703	ORG A 558	ORG A 6
LEG R 550	LEG R 642	ORG A 565	ORG A 6
LEG R 570	LEG R 622	ORG A 598	ORG A 6
LEG R 571	LEG R 652	ORG A 601	ORG A 7
MANEC 463	MANEC 502	ORG A 602	ORG A 7
MANEC 464	MANEC 504	ORG A 603	ORG A 7
MANEC 512	MANEC 676	P MGT 580	P MGT 6
MANEC 513	MANEC 614	P MGT 585	ORG T 6
		P MGT 590	ORG T 6

04.12.11 Graduate Courses — PhD, MBA, MPM

THES 900 Thesis
THES 999 Thesis
BUS 900 ★3 Directed Research Project

ccounting

CCTG 512 Introductory Financial Accounting
3 (first term, 3-0-0).

CCTG 522 Managerial Control Systems
3 (second term, 3-0-0).

CCTG 612 Seminar in Financial Accounting heory
3 (first term, 3-0-0).

CCTG 614 Seminar in Current Accounting Issues
3 (second term, 3-0-0). Prerequisite: ACCTG 561.

CCTG 616 Accounting for the Public Sector
3 (either term, 3-0-0).

CCTG 624 Seminar in Management Accounting
3 (second term, 3-0-0).

CCTG 666 Financial Information and Capital larkets
3 (either term, 3-0-0). Prerequisite: ACCTG 452, FIN 56 and MGTSC 462.

usiness

US 632 Seminar in Management Information ystems
3 (either term, 3-0-0).

US 654 Research Methodology
3 (either term, 3-0-0).

US 664 Tax Factors in Business Decision Making
3 (either term, 3-0-0).

US 676 Business Policy I
3 (either term, 3-0-0).

US 678 Business Policy II
3 (either term, 3-0-0).

inance

IN 502 Managerial Finance
3 (either term, 3-0-0).

IN 614 Portfolio Management
3 (either term, 3-0-0). Prerequisite: FIN 456.

IN 616 Securities Markets and Investment Banking
3 (either term, 3-0-0).

IN 634 Corporate Financial Planning
3 (either term, 3-0-0).

IN 644 International Finance
3 (either term, 3-0-0).

IN 654 Risk Management
3 (either term, 3-0-0). Prerequisite: FIN 456.

IN 686 Selected Topics in Finance
3 (either term, 3-0-0).

IN 698 Individual Study Project in Finance
3 (either term, 3-0-0).

ndustrial Relations

ND R 604 Collective Bargaining
3 (first term, 3-0-0).

ND R 605 Collective Agreement Administration and rbitration
3 (second term, 3-0-0).

ND R 652 Public Sector Employee Relations
3 (either term, 3-0-0).

ND R 672 Unions, Managements, and the Public
3 (either term, 3-0-0).

aw

AW 455 Administrative Law for Public Managers
3 (either term, 3-0-0).

Legal Relations

EG R 622 Law, Public Policy and the Canadian Managerial Environment
3 (either term, 3-0-0).

EG R 642 International Business Law
3 (either term, 3-0-0).

EG R 652 Seminar on Products Liability and Consumer Protection
3 (either term, 3-0-0).

Management Science

MGTSC 502 Modelling and Decision Analysis
3 (either term, 3-0-0).

MGTSC 514 Data Analysis for Management
3 (second term, 3-0-0).

MGTSC 614 Applied Time Series Analysis
★3 (either term, 3-0-0). Prerequisite: MGTSC 462 or equivalent.

MGTSC 615 Multivariate Statistical Methods in Business
★3 (either term, 3-0-0). Prerequisite: MGTSC 462 or consent of the instructor.

MGTSC 632 Simulation and Computer Modeling Techniques in Management
★3 (either term, 3-0-0). Prerequisite: MGTSC 514 or equivalent.

MGTSC 654 Production and Operations Management
★3 (either term, 3-0-0). Prerequisite: MGTSC 461 or consent of the instructor.

MGTSC 684 Seminar in Quantitative Methods in Business
★3 (either term, 3-0-0). Prerequisite: MGTSC 462 or consent of the instructor.

MGTSC 698 Individual Study Project in Management Science
★3 (either term, 3-0-0).

Managerial Economics

MANEC 502 Managerial Economics
★3 (first term, 3-0-0).

MANEC 504 Aggregate Income Analysis
★3 (either term, 3-0-0).

MANEC 604 Pricing
★3 (either term, 3-0-0).

MANEC 614 Competitive Strategy
★3 (either term, 3-0-0).

MANEC 624 Energy Industry Policy
★3 (either term, 3-0-0).

MANEC 646 International Business
★3 (either term, 3-0-0).

MANEC 676 Problems in Trade Regulation and Industrial Organization
★3 (either term, 3-0-0).

MANEC 678 Government Intervention in Business Management
★3 (either term, 3-0-0).

MANEC 686 Selected Topics in Managerial Economics
★3 (either term, 3-0-0).

Marketing

MARK 502 Marketing
★3 (either term, 3-0-0).

MARK 614 Marketing Research
★3 (either term, 3-0-0).

MARK 615 Quantitative Marketing Management
★3 (second term, 3-0-0).

MARK 624 Consumer Behavior
★3 (first term, 3-0-0).

MARK 634 Communication Processes in Marketing
★3 (either term, 3-0-0).

MARK 644 International Marketing
★3 (either term, 3-0-0).

MARK 654 Strategic Marketing
★3 (either term, 3-0-0).

MARK 664 Product Management
★3 (either term, 3-0-0).

MARK 674 Marketing Public Programs
★3 (either term, 3-0-0).

MARK 686 Selected Topics in Marketing
★3 (either term, 3-0-0).

Organizational Analysis

ORG A 502 The Individual in Groups and Organizations
★3 (either term, 3-0-0).

ORG A 512 Organization Theory and Administrative Practice
★3 (either term, 3-0-0).

ORG A 604 Advanced Seminar in Leadership in Organizations
★3 (either term, 3-0-0).

ORG A 605 Interpersonal Communications and Conflict Management
★3 (either term, 3-0-0). Prerequisite: Completion of first year of MBA or MPM program.

ORG A 616 Seminar in the Management of Complex Organizations
★3 (either term, 3-0-0).

ORG A 624 Seminar in Personnel Administration
★3 (either term, 3-0-0).

ORG A 628 Gender Issues in Organizations
★3 (either term, 3-0-0). Prerequisite: Consent of instructor and MBA/MPM Office.

ORG A 670 Internal Corporate Venturing
★3 (Intersession, 3-0-0). Open to MBA/MPM students and students registered in graduate programs in Engineering. Prerequisite: Completion of first year of program and consent of instructor and MBA/MPM Office.

ORG A 672 New Ventures Management
★3 (either term, 3-0-0). Prerequisite: Completion of the first year of the MBA or MPM program.

ORG A 686 Selected Topics in Behavioral Sciences
★3 (either term, 3-0-0).

Political Science

POL S 528 The Politics of Public Administration
★3 (either term, 3-0-0). Prerequisite: POL S 425, or consent of department or the Associate Dean of the MPM program.

Public Management

P MGT 654 Management in Public Organizations
★3 (either term, 3-0-0).

P MGT 674 The Process of Making Public Policy
★3 (either term, 3-0-0).

P MGT 676 Issues in Canadian Public Policy
★3 (either term, 3-0-0). Prerequisite: POL S 528.

204.12.12 PhD Courses

Accounting

ACCTG 701 Introduction to Accounting Research
★3 (either term, 3-0-0).

ACCTG 702 Topics in Accounting Research
★3 (either term, 3-0-0).

ACCTG 703 Accounting Research Workshop
★3 (3-0-0).

ACCTG 704 Individual Research
★3 (either term, 3-0-0).

Finance

FIN 701 Advanced Seminar in Finance I
★3 (either term, 3-0-0).

FIN 702 Advanced Seminar in Finance II
★3 (either term, 3-0-0).

FIN 703 Advanced Seminar in Finance III
★3 (either term, 3-0-0).

FIN 704 Individual Research
★3 (either term, 3-0-0).

Industrial Relations

IND R 701 Seminar in Industrial Relations Foundations
★3 (either term, 3-0-0).

IND R 702 Seminar in Industrial Relations Processes
★3 (either term, 3-0-0).

IND R 703 Seminar in Industrial Relations Research Methodology
★3 (either term, 3-0-0).

IND R 704 Individual Research
★3 (either term, 3-0-0).

Management Science

MGTSC 701 Seminar in Mathematical Programming
★3 (either term, 3-0-0).

MGTSC 702 Seminar in Stochastic Processes
★3 (either term, 3-0-0).

MGTSC 703 Advanced Applications of Operations Research
★3 (either term, 3-0-0).

MGTSC 705 Multivariate Data Analysis I
★3 (either term, 3-0-3).

MGTSC 706 Multivariate Data Analysis II
★3 (either term, 3-0-3).

MGTSC 707 Analysis of Competitive Strategies
★3 (either term, 3-0-0).

Marketing

MARK 701 Research Methodology in Marketing
★3 (either term, 3-0-0).

MARK 702 Buyer Behavior
★3 (either term, 3-0-0).

MARK 703 Marketing Modeling
★3 (either term, 3-0-0).

MARK 704 Individual Research
★3 (either term, 3-0-0).

Organizational Analysis

ORG A 701 Seminar in Organization Theory
★3 (either term, 3-0-0).

ORG A 702 Seminar in Human Behavior in Organization
★3 (either term, 3-0-0).

ORG A 703 Seminar in Strategic Management
★3 (either term, 3-0-0).

ORG A 704 Individual Research
★3 (either term, 3-0-0).

Org A 705 Seminar in Contemporary Issues
★3 (3-0-0).

204.13 Chemical Engineering

Department of Chemical Engineering
536 Chemical/Mineral Engineering Building
University of Alberta
Edmonton, Alberta T6G 2G6

204.13.1 General Information

The Department of Chemical Engineering offers facilities for advanced training and research leading to the Master of Engineering, Master of Science and Doctor of Philosophy degrees in chemical engineering. Programs leading to Master of Science, Master of Engineering and Doctor of Philosophy in process control (chemical engineering) are also available for students wishing to specialize in this area.

General fields for research include fluid mechanics and rheology; reaction kinetics and catalysis; mass transfer and separation processes; heat transfer; thermodynamics, hydrocarbon P-V-T and phase equilibrium studies; polymer reactor engineering; computer process control; dynamic simulation; biotechnology, mathematical modelling and environmental engineering. Many research programs are oriented toward better utilization of natural resources in the province, e.g., upgrading of Athabasca bitumen and heavy oil feedstocks; processing of natural gas.

Emphasis is given to computer applications, both in the courses of instruction and in research. This is made possible through interest of the staff and through the facilities that are available in the Department's Data Acquisition Control and Simulation Centre and through the University's Computing Systems. Access to personal computers is also provided. Instruction is offered in computer-oriented mathematical techniques, modelling, advanced control strategies, digital computer simulation, systems engineering and real-time computer applications.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 600 where applicable (see §202.2.2). The Department will accept qualified applicants with degrees in other fields of engineering. Graduates with non-engineering backgrounds may be admitted under special arrangements which involve the completion of certain undergraduate engineering courses.

Financial Assistance:

Graduate assistantships are available for qualified students on a part-time or full-time basis, with remuneration according to the student's background and hours of service. Scholarships and fellowships are available for research in chemical engineering and process control.

204.13.2 The Degree of MSc

Program Requirements:

MSc programs normally consist of 18 units of course weight plus CH E 683 and 684, research, and a thesis. Certain graduate courses are mandatory. Details of all programs must be worked out in consultation with the Department.

There is no language requirement for the degree of MSc.

The minimum period of residence is two four-month terms of full- time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research undertaken; however, an average of 18 months is normally required.

204.13.3 The Degree of MEng

Program Requirements:

For the Master of Engineering program, work equivalent to 30 units of course weight plus an engineering project equivalent to three units of course weight must be completed. The courses are of the same type and calibre as those taken by the MSc and PhD candidates. The project may be completed within a three to six week period following the regular Winter Session.

There is no language requirement for the MEng degree.

The minimum period of residence is one four-month term for a BSc graduate with at least one year of post-BSc experience.

Length of Program:

The maximum time permitted for completion of a Master of Engineering program is four years from the date of first registration; however, the program may be completed in a minimum of nine months of full-time study.

204.13.4 The Degree of PhD

Program Requirements:

For the PhD program, in addition to the requirements of the Faculty of Graduate Studies and Research, the Department requires the candidate to satisfactorily complete at least 27 units of course weight and obtain credit in CH E 683, 684, 685, and 686. At least 15 of the 27 units of course weight should be selected from courses offered by the Department of Chemical Engineering, and a minimum of six units of course weight must be selected from a faculty other than the Faculty of Engineering.

A student who intends to study for the PhD degree is required to pass a set of written PhD preliminary examinations. These examinations, which embrace the major areas of chemical engineering or process control, are normally taken by the student after one year of graduate studies. Although the timing depends on circumstances, PhD preliminary examinations are normally held in May and/or August.

There is no language requirement for the PhD degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the individual candidate and whether the PhD program follows the attainment of the BSc or the MSc degree. In the former case at least four years are usually required to complete the program.

204.13.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis
CH E 900 ★3 Directed Research Project

CH E 610 Advanced Mass Transfer Operations
□3.0 (either term,3-0-0). (★3)

CH E 612 Advanced Fluid Mechanics
□3.0 (either term,3-0-0). Potential, boundary layer, viscometrics, and secondary flows; application to multiphase phenomena. (★3)

CH E 613 Selected Topics in Mass Transfer
□3.0 (either term,3-0-0). A study of fundamental mass transfer with emphasis on gas-liquid and liquid-liquid dispersions, simultaneous mass transfer and chemical reaction and simultaneous heat and mass transfer. (★3)

CH E 614 Advanced Heat Transfer
□3.0 (either term,3-0-0). Design problems involving conductive, convective, and radiant heat transfer. (★3)

CH E 615 Advanced Separation Processes
□3.0 (either term,3-0-0). Characterization, selection and design of equilibrium and rate-governed separation processes. Topics include capacity and efficiency of mass transfer equipment and process energy requirements. (★3)

CH E 616 Selected Topics in Fluid Mechanics
□3.0 (either term,3-0-0). Problems in fluid mechanics associated with polymeric fluids, multiphase systems and flow through porous media. Prerequisite: CH E 612 or consent of instructor. (★3)

CH E 622 Advanced Physical Properties and Behaviour of Petroleum Fluids
□3.0 (either term,3-0-0). Physical and chemical properties of multicomponent hydrocarbon mixtures; experimental methods and property correlations. (★3)

CH E 624 Advanced Thermodynamics
□3.0 (first term,3-0-0). Principles of thermodynamics; properties of homogeneous fluid phases; phase and chemical equilibria; application to industrial problems. (★3)

CH E 634 Advanced Chemical Reactor Design
□3.0 (either term,3-0-0). Design of homogeneous and heterogeneous reactors for isothermal and non-isothermal operation; analysis of rate data; transport processes in heterogeneous catalytic systems. (★3)

CH E 636 Advanced Chemical Kinetics and Catalysis
□3.0 (either term,3-0-0). Gas phase reactions; kinetics in liquid solutions; characterization of catalysts; heterogeneous catalysts. (★3)

CH E 640 Real-Time Computer Applications
□3.8 (either term,3-0-3/2). Real-time sensor-based, micro and mini computer systems with emphasis on their applications in the process industries. Topics include: multi-tasking operating systems, process control applications, networks, data bases and industrial practice. Prerequisite: CH E 540 or permission of instructor. (★3)

CH E 646 Process Dynamics and Computer Process Control
□3.5 (first term,3-0-3/3). An introductory graduate level course in process dynamics and control. Topics include: dynamic process modelling, simulation, estimation, filtering, multiloop and multivariable control, plus stability and performance analysis. (★3)

CH E 649 Software Engineering and Management
□3.8 (either term,3-0-3/2). Current techniques as applied to the analysis, design, implementation, maintenance and management of large software systems for process engineering and control applications. Prerequisite: Programming experience plus an engineering background or consent of instructor. (★3)

CH E 654 Decision Analysis
□3.0 (either term,3-0-0). Applications of Bayesian statistical decision theory to general systems problems, using both analytical and computer-based numerical methods, with emphasis on formulating a proper utility function, building suitable mathematical models, and making Bayesian inferences from data. (★3)

CH E 662 Dynamics of Process Systems
□3.8 (second term,3-0-3/2). Analysis and simulation of the dynamics of chemical engineering systems; process identification techniques; on-line characterization of process dynamics. Prerequisite: CH E 646 or consent of instructor. (★3)

CH E 664 Advanced Process Control
□3.5 (first term,3-0-3/3). Selected topics related to multivariable control: continuous systems, discrete systems, frequency domain analysis, stability and/or robustness and performance. Emphasis will be on current developments in the literature, plus process applications. Prerequisite: CH E 646. (★3)

CH E 666 Adaptive Control
□3.0 (either term,3-0-0). Process identification and adaptive control techniques for single and multi-variable process systems with noise, time-delays, disturbances and model-process-mismatch. (★3)

CH E 674 Numerical Solutions of Engineering Problems
□3.0 (second term,3-0-0). Numerical solutions of engineering problems using linear and nonlinear sets of equations, ordinary and partial differential equations. (★3)

CH E 676 Applied Mathematics I
□3.0 (either term,3-0-0). Application of mathematics to engineering problems with emphasis on operator methods. (★3)

CH E 678 Applied Mathematics II
□3.0 (either term,3-0-0). Application of mathematics to engineering problems with emphasis on tensor analysis. (★3)

CH E 683 Graduate Seminar I
□0.5 (0-1s-0). Discussion of progress and problems in research in Chemical Engineering. (★1)

CH E 684 Graduate Seminar II
□0.5 (0-1s-0). Discussion of progress and problems in research in Chemical Engineering. Prerequisite: CH E 683. (★1)

CH E 685 Graduate Seminar III
□0.5 (0-1s-0). Discussion of progress and problems in research in Chemical Engineering. Prerequisite: CH E 684. (★1)

CH E 686 Graduate Seminar IV
□0.5 (0-1s-0). Discussion of progress and problems in research in Chemical Engineering. Prerequisite: CH E 685. (★1)

CH E 690 Engineering Aspects of Biotechnology
□3.0 (either term,3-0-0). The application of engineering principles to biological systems, with examples drawn from fermentation technology, food science, and medicine. The fundamental physical processes governing cell growth and metabolism are analyzed, including thermodynamics and energetics, membrane transport, mixing, oxygen uptake, and enzyme kinetics. Prerequisite: Consent of instructor. (★3)

CH E 694 Advanced Topics in Chemical Engineering
□3.0 (either term,3-0-0). An advanced treatment of selected chemical engineering topics of current interest to staff and students. (★3)

E 696 Special Topics in Process Dynamics and mputer Control
.0 (either term,3-0-0). Advanced treatment of selected ics in process dynamics and/or computer process trol of current interest to staff and students. (★3)

04.13.6 Reading Projects

Credit will be allowed up to a maximum of 3 units in one project.

E 713 Mass Transfer
.0 (either term,3-0-0). (★3)

E 714 Heat Transfer
.0 (either term,3-0-0). (★3)

E 716 Fluid Mechanics
.0 (either term,3-0-0). (★3)

E 724 Thermodynamics
.0 (either term,3-0-0). (★3)

E 736 Applied Kinetics and Catalysis
.0 (either term,3-0-0). (★3)

E 742 Process Dynamics
.0 (either term,3-0-0). (★3)

E 744 Process Control
.0 (either term,3-0-0). (★3)

E 754 Operations Research
.0 (either term,3-0-0). (★3)

04.14 Chemistry

partment of Chemistry
-43 Chemistry Centre
iversity of Alberta
monton, Alberta T6G 2G2

04.14.1 General Information

The Department of Chemistry has research laboratories d instructional facilities for at least 150 graduate udents proceeding to the MSc and PhD degrees in emistry.

The active research interests of the staff include:

) **Analytical:** Electroanalytical techniques; chemical modification of electrode surfaces; electrochemical sensors; analysis of substances of pharmaceutical and biological interest; inductively coupled plasma emission and mass spectrometry; application of electronic image sensors to spectrochemical measurements; acquisition and processing of analytical data with microprocessor systems, solvent effects on solute properties and reactions; applications of nonaqueous systems to analysis, chemical speciation, sampling liquid chromatography, solvent extraction, ion exchange and flow injection analysis; surface characterization of semiconductors.

) **Inorganic:** Transition metal organometallic chemistry; synthesis of hydrides, carbonyls, and metal-metal multiple bonds; organometallic photochemistry; organoactinide complexes; coordination and activation of small molecules; activation of carbon-hydrogen bonds; amino acid complexes; rates and mechanisms of electron transfer reactions of metal complexes; X-ray crystallography; X-ray and photoelectron spectroscopy; phosphines and phosphoranes with highly electronegative substituents; NMR studies of non-rigid molecules and complexes.

) **Organic:** Structural and synthetic studies on natural products; degradation of natural products; heterocyclic chemistry; mono- and di-saccharides, selective reductions; organometallic chemistry; pyrolysis mechanisms of pyrazolines and other organic compounds; mechanisms and stereochemistry of solvolytic reactions; small rings; reactive intermediates (ylides, carbenes, nitrenes); alkali metal aromatic complexes; organic photochemistry; acetylenes; allenes; free radicals; conformation and synthesis of carbohydrates; structure-activity correlations of antibiotics; synthetic and mechanistic investigations in heterocycles, with emphasis on the applications of NMR and EPR; mechanism of free radical reactions; photocycloaddition-fragmentation reactions; the invention of new reagents; mechanism and stereochemistry of enzymatic reactions; radiochemical synthesis; nucleic acid component chemistry; nucleoside antibiotics and bioactive analogues.

) **Physical:** Infrared and Raman spectra 4000 - 10 cm of solids and gases, high-pressure phases, dielectric relaxation; enzyme mechanisms, oxygen radicals in biology; radiation chemistry, behavior of electrons in liquids; electron spin resonance; mass spectrometry; electronic absorption and emission spectroscopy; chemistry of ions in gases, ion molecule reactions, chemical ionization; reaction dynamics by molecular beams, laser techniques and computer modelling; biophysical chemistry involving studies of substrate-metal ion-enzyme complexes using NMR and EPR techniques; molecular motion in fluids and chemical kinetics by NMR, 2D NMR; petroleum chemistry, free radical chemistry, photochemistry, photochemical synthesis, flash photolysis and flash spectroscopy.

(5) **Theoretical:** Excited state wave functions, theory of vibration-rotation; theoretical dynamics of unstable and oscillatory chemical reaction networks, statistical mechanics of fluctuations near instabilities; theoretical study of atomic and molecular structure; theory of atomic and molecular collisions, many-electron problem in solids, vibrational and vibronic dynamics.

Further information may be obtained by writing the Chair of the Department.

Entrance Requirements:

Candidates for the MSc and PhD degrees in chemistry should be graduates in chemistry or chemical engineering from recognized universities, and should have obtained a grade point average of at least 6.8 in the last two years of undergraduate (or graduate) work from the University of Alberta, or an equivalent qualification from a recognized institution. Where applicable (refer to §202.2.2) candidates must have passed a TOEFL examination with a minimum score of 550. To qualify as Teaching Assistants, candidates must have a TOEFL score of at least 570.

Financial assistance:

Financial assistance in the form of scholarships and graduate assistantships is normally available for all graduate students who maintain a satisfactory performance.

204.14.2 The Degree of MSc

Program Requirements:

A minimum of 12 units of course weight in graduate chemistry courses must be passed. In addition, a research project must be carried out, the results of which are to be presented in thesis form, followed by an oral examination.

Students must obtain a GPA of 6.5 or greater in their first year, and must maintain a cumulative GPA of 6.5 or greater in their second and subsequent years in order to remain in the graduate program.

There is no language requirement for the degree of MSc.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The minimum time required to complete an MSc degree is 12 months after a four-year BSc degree in chemistry.

204.14.3 The Degree of PhD

Program Requirements:

For students in analytical, inorganic, and physical chemistry: 18 units of course weight, of which at least 15 are graduate courses in chemistry, must be included. In some circumstances, advance credit for graduate courses in chemistry taken elsewhere may be recommended by the Department to the Faculty of Graduate Studies and Research, up to a maximum of six units of course weight. Students in organic chemistry must take 12 units of course weight in graduate courses and write monthly cumulative examinations in organic chemistry (normally a maximum of 20 attempts) until seven have been passed.

In order to continue in the PhD program, a student must achieve a GPA of 6.5 or greater in all courses taken in the first year, and must maintain a cumulative GPA of 7.0 or greater in the second and subsequent years.

(**Note**: A special chemical-physics program is also available, which allows increased emphasis on physics and mathematics.)

Every student must present a seminar on a topic other than the students' research program.

A reading knowledge of one language other than English may be required depending on the program chosen by the student.

When these requirements are nearly completed, all PhD students must pass an oral candidacy examination in subjects relevant to their general field of research. Finally, the student will be required to present the results of the student's research in thesis form and orally to an examining committee, and as a seminar to the Department as a whole.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The minimum time required to complete a PhD degree is three academic years of study and research after a four-year BSc degree, or two academic years after an MSc degree.

204.14.4 Graduate Courses

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
CHEM 602	CHEM 502	CHEM 655	CHEM 569
CHEM 604	CHEM 504	CHEM 657	CHEM 567
CHEM 619	CHEM 523	CHEM 663	CHEM 563
CHEM 631	CHEM 531	CHEM 665	CHEM 565
CHEM 635	CHEM 535	CHEM 667	CHEM 557
CHEM 637	CHEM 543	CHEM 683	CHEM 583
CHEM 641	CHEM 541	CHEM 684	CHEM 584
CHEM 643	CHEM 545	CHEM 685	CHEM 579
		CHEM 699	CHEM 599

THES 900 Thesis
THES 999 Thesis
PROJ 900 Non-Thesis Project

CHEM 313 Instrumentation in Chemical Analysis
★3 (first term, 3-0-4). Prerequisite: CHEM 212; 270; one (1) FCE junior Physics.

CHEM 405 Special Topics in Chemistry
★3 (either term, 3-0-0). Prerequisite: A 300-level Chemistry course.

CHEM 407 Computing Applications in Chemistry
★3 (second term, 3-0-3/2). Prerequisite: MATH 215. Corequisite: CHEM 383.

CHEM 413 Electronics for Scientists
★3 (second term, 3-0-3). Prerequisite: A 300-level Chemistry course and consent of department.

CHEM 415 Analytical Electrochemistry
★3 (second term, 3-0-3). Prerequisite: CHEM 313.

CHEM 417 Analytical Spectroscopy
★3 (second term, 3-0-3). Prerequisite: CHEM 313.

CHEM 419 Advanced Analytical Chemistry
★3 (first term, 3-0-0). Prerequisite: CHEM 212, 260, and 270 and a 300-level Chemistry course.

CHEM 421 Analytical Separations
★3 (first term, 3-0-3). Prerequisite: CHEM 313 and consent of department.

CHEM 433 Structure in the Solid State
★3 (first term, 3-0-0). Prerequisite: CHEM 341.

CHEM 437 Transition Metal Chemistry
★3 (second term, 3-0-0). Prerequisite: CHEM 341.

CHEM 439 Inorganic Reaction Mechanisms
★3 (first term, 3-0-0). Prerequisite: CHEM 341.

CHEM 463 Chemistry of Carbohydrates
★3 (either term, 3-0-0). Pre- or co-requisite: CHEM 363.

CHEM 465 Theoretical Organic Chemistry
★3 (first term, 3-0-0). Prerequisite: CHEM 363.

CHEM 467 Advanced Organic Synthesis
★3 (second term, 3-0-0). Prerequisite: CHEM 363 and consent of department.

CHEM 469 Natural Products
★3 (first term, 3-0-0). Prerequisite: CHEM 363.

CHEM 477 Molecular Spectroscopy and Structure
★3 (either term, 3-0-0). Prerequisite: CHEM 383.

CHEM 479 Kinetics, Surfaces, and Catalysis
★3 (second term, 3-0-0). Prerequisite: CHEM 270, MATH 215, PHYS 237 and a 300-level Chemistry course.

CHEM 481 Chemical Thermodynamics
★3 (second term, 3-0-0). Prerequisite: CHEM 270, MATH 215, PHYS 238 and a 300-level Chemistry course.

CHEM 483 Magnetic Resonance and its Chemical Applications
★3 (first term, 3-0-0). Prerequisite: CHEM 383.

CHEM 491 Radiation Chemistry
★3 (first term, 3-0-0). Prerequisite: CHEM 270; a 300-level Chemistry course and consent of department.

CHEM 493 Molecular Spectroscopy
★3 (first term, 3-0-0). Prerequisite: CHEM 383.

CHEM 502 Departmental Research Seminar
★0 (0-2s-0).

CHEM 504 Advanced Research Seminar
★0 (0-2s-0).

CHEM 523 Special Topics in Advanced Analytical Chemistry
★3 (either term, 3-0-0).

CHEM 531 Organometallic Chemistry
★3 (second term, 3-0-0).

CHEM 535 Chemistry of the Metal Carbonyls
★3 (first term, 3-0-0).

CHEM 541 Spectroscopic Techniques in Inorganic Chemistry
★3 (either term, 3-0-0).

CHEM 543 The Chemistry of the Main Group Elements
★3 (second term, 3-0-0).

CHEM 545 Chemical Application of Photoelectron Spectroscopy
★3 (second term, 3-0-0).

CHEM 557 Free Radical Reactions in Organic Chemistry
★3 (second term, 3-0-0).

CHEM 563 Heterocyclic Chemistry
★3 (second term, 3-0-0).

CHEM 565 Chemistry of Nucleosides
★3 (second term, 3-0-0). Prerequisite: CHEM 551 and 555

CHEM 567 Physical Organic Chemistry
★3 (second term, 3-0-0).

CHEM 569 Physical Organic Chemistry
★3 (either term, 3-0-0).

CHEM 579 Solution Kinetics
★3 (first term, 3-0-0).

CHEM 583 Quantum Chemistry
★3 (first term, 3-0-0).

CHEM 584 Principles of Quantum Mechanics with Chemical Applications
★6 (3-0-0).

CHEM 585 Infrared and Raman Spectroscopy
★3 (second term, 3-0-0). Prerequisite: CHEM 493 or equivalent.

CHEM 587 Special Topics in Free Radical Chemistry
★3 (second term, 3-0-0). Prerequisite: CHEM 479. Prerequisite or corequisite: CHEM 493.

CHEM 589 Statistical Mechanics
★3 (first term, 3-0-0). Prerequisite: CHEM 383.

CHEM 595 Photochemistry
★3 (second term, 3-0-0). Prerequisite: CHEM 383 and CHEM 479.

CHEM 597 Chemical Reaction Mechanism Analysis
★3 (first term, 3-0-0). Prerequisite: CHEM 270.

CHEM 599 Chemical Applications of Mass Spectrometry
★3 (second term, 3-0-0).

204.15 Civil Engineering

Department of Civil Engineering
220 Civil/Electrical Engineering Building
University of Alberta
Edmonton, Alberta T6G 2G7

204.15.1 General Information

The Department of Civil Engineering offers programs of study leading to the advanced degrees of Master of Science, Master of Engineering and Doctor of Philosophy in civil engineering. Programs may be arranged for candidates who obtained their first degree in fields other than civil engineering; such programs lead to degrees in the area of specialization rather than in civil engineering (e.g. Master of Science in Environmental Sciences, Geotechnique, or Hydrology).

Programs are offered in the fields of engineering materials, highways and transportation, hydraulics and hydrology, environmental engineering, geotechnical engineering, structures and solid mechanics, welding engineering, and oil sands engineering.

Active research areas in the Department include various aspects of: geotechnical engineering; transportation engineering and highway materials; concrete and cementitious materials; structural behavior of concrete, masonry, steel, and timber members and frames; structural analysis and solid mechanics; hydraulics, hydrology and river behavior; environmental engineering. More detailed information on activities in each of these areas is available on request. Inquiries should be directed to the Chair of the Civil Engineering Department.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2). Note: The Department requires higher grades than the minimum standards of the Faculty of Graduate Studies and Research (outlined in §202.8) for continuance in a graduate program.

Financial Assistance:

Financial assistance is available through the Department in the form of a limited number of graduate assistantships. This funding is only available to MSc and PhD candidates. In addition, students whose research falls within an area of joint interest to the Department and the Centre for Frontier Engineering Research may be eligible for additional financial assistance from C-FER.

204.15.2 The Degree of MSc

Program Requirements:

Master of Science programs normally consist of a minimum of 24 units of course weight, 15 of which must be in the candidate's major field of interest, plus a thesis. Other weightings between course work and thesis may be arranged.

There is no language requirement for the degree of MSc.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

A candidate may complete a Master of Science program in 12 months. However, a student normally spends two academic years, during which more time is devoted to the thesis topic. The maximum time permitted for completion of the program is four years from the date of first registration.

204.15.3 The Degree of MEng

Program Requirements:

Master of Engineering programs consist of a minimum of 30 units of course weight, plus a project that is approximately equivalent to three units of course weight.

MEng programs are offered in all Civil Engineering specializations.

There is no language requirement for the degree of MEng.

The minimum period of residence required is one four-month term for a BSc graduate with at least one year of post-BSc experience, and two four-month terms for a BSc graduate with less than one year of post-BSc experience.

Length of Program:

Candidates may complete the Master of Engineering program in a minimum of nine months. The maximum time permitted for completion of the program is four years from the date of first registration.

204.15.4 Some Special MEng Degrees

Some special programs of study leading to particular Master of Engineering degree designations can be arranged through various departments in the Faculty of Engineering. A description of two such degree programs follows. Unless otherwise noted the requirements for these degrees are identical to those specified in §204.15.3.

(1) **MEng Degree in Oil Sands Engineering**

a. Depending on the students' field of study for their bachelor's degree, they will be assigned to one of the departments of engineering as their home department. The degree designation will be Master of Engineering in "field of study" in "home department" (e.g., Master of Engineering in Oil Sands Engineering in Civil Engineering).

b. Eighteen of the 30 units of course weight must be taken from a list of core courses. Consult the Department for details.

c. Work on the required project may be conducted within the University environment or outside in industry; however, approval, control, and supervision will remain with the student's academic supervisor.

(2) **MEng Degree in Welding Engineering**

a. Depending on the student's field of study for their BSc degree, they will be assigned to either the Department of Civil Engineering, Mechanical Engineering, or Mining, Metallurgical and Petroleum Engineering as their home department. Degree designation will be Master of Engineering in "field of study" in "home department" (e.g., Master of Engineering in Welding Engineering in Civil Engineering).

b. Certain courses must be taken by all students in the program, regardless of educational specialty. Consult the Department for details.

c. A maximum of 50% of the total course load (15 units of course weight) and a minimum of 30% can be taken in the student's home department. All home department courses must be at the 600-level.

d. A student may be permitted to take a maximum of six units of course weight in appropriate 400- or 500-level undergraduate courses for credit toward the student's degree. Such courses cannot be part of the student's home department undergraduate core curriculum.

e. Work on the required project may be conducted within the University environment or outside in industry; however, approval, control and supervision will remain with the student's academic supervisor.

204.15.5 The Degree of PhD

Program Requirements:

Doctor of Philosophy programs are offered in most fields of civil engineering. Courses in a PhD program are assigned by the supervisory committee, in consultation with the student, to provide depth in a major area of study and a related minor area of study. There is no fixed number of required courses.

All candidates for the PhD must prepare and defend a thesis of high calibre on an approved topic.

No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of two years beyond the MSc is normally required.

204.15.6 Graduate Courses

THES 900 Thesis
THES 999 Thesis
CIV E 900 ★3 Directed Research Project

CIV E 601 Cement and Concrete Technology
□3.0 (either term, 3-0-0). Properties of plain concrete with emphasis on the physicochemical aspects of behavio (★3)

CIV E 608 Design of Civil Engineering Experiments
□3.0 (either term, 3-0-0). Introduction to experimentr design; design of experiments in environmental, trans portation and other civil engineering specialty areas analysis of experimental and survey data. (★3)

CIV E 609 Special Topics in Civil Engineering
□3.0 (either term, 3-0-0). (★3)

CIV E 610 Pavement Design
□3.0 (first term, 3-0-0). Pavement performance an evaluation; stresses and displacements in layered sys tems; theories and principles of flexible and rigid pav ment design and construction; rehabilitation of pavement and cost analysis. (★3)

CIV E 611 Pavement Materials
□3.0 (second term, 3-0-0). Source, manufacture, prop erties, tests and specifications of bituminous materials properties and testing of aggregate, bituminous an stabilized mixtures; construction and quality contro (★3)

CIV E 612 Transportation Design
□3.0 (first term, 3-0-0). Introduction to all modes transportation; principles of geometric design of trans portation facilities including highways, railways, airport and parking terminals; economics of location. (★3)

CIV E 613 Transportation Systems Analysis
□3.0 (second term, 3-0-0). Urban and regional transpo planning; travel demand forecasting; origin-destinatio analysis; trip distribution models; network analysis; ecc nomic principles in transportation; freight transport; strateg of transport planning. (★3)

CIV E 614 Transportation Engineering
□3.0 (first term, 3-0-0). Principles of traffic psychology introduction to theory of traffic flow; traffic capacity highways, interchanges and urban roads; traffic opera tions; traffic control devices and signal systems; princ ples of street illumination; principles of air traffic an railway traffic operations. (★3)

CIV E 615 Functional Planning and Geometric Desig
□3.5 (second term, 2-0-3). Types of interchanges, ne work planning and other facets of functional planning geometric design, merging and diverging movement environmental and safety factors. (★3)

V E 616 Public Transportation
3.0 (second term, 3-0-0). Public transport networks; opulation and transport network densities; traffic prediction and choice of transport mode; capacity and erating characteristics of various types of public transport; sign characteristics of various transit systems; integration th urban planning. (★3)

V E 617 Computer Applications in Transportation ngineering and Planning
3.0 (either term, 3-0-0). Computer modelling in transortation engineering. Application programs in traffic perations, urban transportation planning and transportion decision analysis. The course provides an opporunity to apply the concepts and modelling principles to actical situations and to acquire the necessary skills th a variety of programs used in transportation engineering research and practice. (★3)

V E 619 Advanced Topics in Transportation and ighway Engineering
3.0 (either term, 3-0-0). (★3)

V E 620 Environmental Engineering easurements I
4.5 (first term, 3-0-3). Theory and procedures for determining the quality of natural water, potable water, unicipal and industrial wastes. Fundamental parameters nd concepts for environmental quality evaluation. (★3)

V E 621 Municipal Distribution and Collection ystems
3.0 (second term, 3-0-0). Detailed and advanced design of water supply systems, sewerage and storm rains. Rates of flow, and hydraulics of networks and ewers, rainfall-runoff analysis, storm water storage, oads on conduits are examined. Solid waste collection nd processing systems. (★3)

V E 622 Physical/Chemical Water and Wastewater reatment
3.0 (first term, 3-0-0). Theory and design of chemical nd physical unit processes utilized in the treatment of ater and wastewater, sedimentation, flotation, coagulation, precipitation, filtration, disinfection, ion exchange, everse osmosis, adsorption, and gas transfer. (★3)

IV E 623 Industrial Water and Wastewater lanagement
3.0 (either term, 3-0-0). Industrial water quantity and uality requirements. Characteristics of wastes, inplant ontrols, product recovery; effluent characteristics, chemical nd toxic properties, pretreatment and treatment design heory and methodology, water reclamation and reuse egulations. (★3)

IV E 624 Biological Waste Treatment Processes
3.0 (second term, 3-0-0). Study of the theoretical and pplied aspects of wastewater treatment by activated ludge, fixed and moving biological films, conventional nd aerated lagoons, sludge digestion, septic tanks, and treatment, and nutrient removal. Guidelines, regulations and economics. System analysis and design of acilities. (★3)

IV E 625 Engineering Management of Water Quality
3.0 (either term, 3-0-0). Concepts, rationale, theory, nstitutions and engineering aspects of water quality management. Methods of water quality management; oxygen; chemical and microbial models, natural and nduced re-aeration techniques; thermal pollution and ce cover considerations. (★3)

IV E 626 Environmental Health Engineering
3.0 (either term, 3-0-0). Environmental contaminants: heir sources and effects on humans and other biota. Risk assessment. Air quality (health considerations and management). Radioactive wastes and their control. Noise sources, health considerations and control techniques. (★3)

IV E 627 Environmental Engineering Measurements II
3.0 (second term, 1-0-4). Laboratory experiments to present techniques for obtaining data and relationships needed for design of treatment facilities. Analytical approaches, data interpretation, presentation and design methods. Applications of experimental design principles. (★3)

IV E 629 Advanced Topics in Environmental Engineering
3.0 (either term, 3-0-0). (★3)

IV E 630 Open Channel Flow
3.0 (either term, 3-0-0). Steady and unsteady flow in open channels. (★3)

IV E 631 Engineering Fluid Mechanics
3.0 (first term, 3-0-0). Navier-Stokes equations and viscous flow. Turbulence and Reynolds equations. Potential flow. Boundary layers. Flow around bodies. Jets and wakes. (★3)

IV E 632 Hydraulic Structures
3.0 (either term, 3-0-0). Hydraulic design of water handling structures used for extraction, retention, conveyance, control, regulation, energy dissipation, drainage, navigation, flood control and other civil engineering schemes. (★3)

CIV E 633 Pipe Flow
3.0 (first term, 3-0-0). Steady and unsteady flow in pipe systems. Pipe networks. Slurry transport. Pump characteristics and pump-system interaction. Pipeline design. (★3)

CIV E 634 Numerical Methods in Hydraulics
3.0 (first term, 3-0-0). Finite difference, finite element and boundary integral methods. Applications of these methods. (★3)

CIV E 635 Advanced Environmental Fluid Mechanics
3.0 (second term, 3-0-0). Mixing processes and pollutant transport in rivers, lakes, estuaries, coastal waters and the atmosphere. Prerequisite: CIV E 631. (★3)

CIV E 636 Ice Engineering
3.5 (either term, 3-0-1). Elementary heat transfer analysis. Ice formation processes. Ice hydraulics. Ice mechanics. Interaction of ice and engineering structures. (★3)

CIV E 637 Coastal Engineering in Cold Regions
3.5 (either term, 3-0-1). Waves, tides and storm surges; estuarine hydraulics. Sea ice formation and processes. Interaction of waves and ice with structures. (★3)

CIV E 639 Advanced Topics in Fluid Mechanics and Hydraulics
3.0 (either term, 3-0-0). (★3)

CIV E 640 River Engineering
3.5 (either term, 3-0-1). Flow and sediment transport in alluvial channels; engineering geomorphology; river ecology; design of river engineering installations. (★3)

CIV E 641 Advanced Surface Water Hydrology
3.0 (either term, 3-0-0). Precipitation, evaporation, infiltration. Streamflow and hydrograph analysis. Hydrologic systems. Hydrologic routing. Simulation models. Statistical methods. (★3)

CIV E 642 Risk and Decision in Civil Engineering
3.0 (either term, 3-0-0). Analysis of data; models and solutions in respect to decision making for civil engineering problems such as quality control, safety of structures, traffic flow, transportation planning, watershed management, water supply, measurement theory, simulation, natural phenomena. (★3)

CIV E 643 Porous Media Hydraulics
3.5 (either term, 3-0-1). Saturated and unsaturated flow: infiltration, percolation seepage, drainage and aquifer hydraulics. (★3)

CIV E 649 Advanced Topics in Water Resources Engineering
3.0 (either term, 3-0-0). (★3)

CIV E 650 Advanced Topics in Photogrammetry
3.0 (either term, 3-0-0). Specialized photogrammetric techniques for use in engineering and scientific measurements. Emphasis on close-range and terrestrial photogrammetry, self-calibration modelling and special adjustment techniques. (★3)

CIV E 651 Advanced Topics in Surveying
3.0 (either term, 3-0-0). Study of modern survey techniques and their application. Emphasis on modern positioning systems, deformation monitoring, survey design and data analysis. (★3)

CIV E 652 Advanced Topics in Data Analysis and Adjustment
3.0 (either term, 3-0-0). Study of data analysis techniques. Regression and adjustment procedures for photogrammetric, surveying and engineering applications. (★3)

CIV E 660 Advanced Structural Analysis I
3.0 (first term, 3-0-0). Fundamentals of the classical flexibility and stiffness methods of structural analysis. Matrix techniques for structural analysis. (★3)

CIV E 661 Advanced Structural Analysis II
3.0 (second term, 3-0-0). Matrix analysis of three-dimensional structures. Matrix formulation for vibration and stability problems. Energy formulations. Prerequisite: CIV E 660 and CIV E 664 or consent of instructor. (★3)

CIV E 663 Design of Shell Structures
3.0 (either term, 3-0-0). (Offered alternate years.) Assumptions, derivation and limitations of shell theory as applied to the design of folded plate structures, storage structures consisting of shells of revolution; cylindrical and parabolic roof shells. Emphasis is placed on design problems. (★3)

CIV E 664 Introduction to Solid Mechanics
3.0 (either term, 3-0-0). Formulation of basic equations of elasicity in solid mechanics. Cartesian tensor notation. Variational principles. (★3)

CIV E 665 Introduction to the Finite Element Method
3.0 (second term, 3-0-0). Fundamentals of the formulation and application of the finite element method to problems of continuum mechanics, with special reference to civil engineering, including problems in solid mechanics and soil mechanics. Prerequisite: CIV E 664 or consent of instructor. (★3)

CIV E 666 Structural Concepts
4.0 (second term, 3-1s-1). Causes and characteristics of loads on buildings, bridges and other structures. Reasons for and calculations of load and resistance factors. (★3)

CIV E 667 Advanced Topics in the Finite Element Method
3.0 (first term, 3-0-0). (Offered in alternate years.) Convergence criteria, equilibrium and hybrid elements. Application of finite element methods to problems in stability, dynamics, plates and shells. Treatment of geometric and material nonlinearities. Prerequisite: CIV E 665 or consent of instructor. (★3)

CIV E 670 Behavior and Design of Steel Members
4.0 (first term, 3-1s-1). Material properties and plate buckling problems. Behavior and design of steel tension and compression members, beams and beam-columns. Behavior and design of welded and bolted connections. This course is designed to give the student an understanding of the individual members which form the steel structure. (★3)

CIV E 671 Behavior and Design of Steel Structures
3.0 (second term, 3-0-0). Brittle fracture and fatigue problems. Behavior and design of composite beams and plate girders. Discussion of frame behavior; overall buckling and instability concepts as related to the design of columns and bracing systems. This course is designed to build on the material contained in CIV E 670 and to give the student an insight into the behavior of the total structure. (★3)

CIV E 672 Behavior and Design of Concrete Members
4.0 (first term, 3-1s-1). Strength and behavior of simple reinforced concrete members. Relation between results of research and current design specifications. Material properties. Members subjected to flexure, axial compression, combined flexure and axial load, combined flexure and shear, torsion. (★3)

CIV E 673 Behavior and Design of Concrete Structures
3.0 (second term, 3-0-0). Strength and behavior of statically indeterminate reinforced concrete structures. Elastic and limit analysis and design considerations for continuous slab systems, frames and shear walls. (★3)

CIV E 674 Behavior and Design of Prestressed Concrete Structures
3.0 (second term, 3-0-0). (Offered alternate years.) Principles and methods of prestressing. Service load design and analysis. Behavior and strength design. Losses in pre-stress and anchorage zone stresses. Continuous beams and slabs. Discussion of design specifications. (★3)

CIV E 676 Behavior and Design of Masonry Structures
3.0 (either term, 3-0-0). (Offered alternate years.) Historical developments. Masonry units, mortars and grouts. Behavior, strength and stability of masonry under axial compression. Reinforced masonry in bending and combined axial load and bending. Ductility and joint control. Design application including discussion of code requirements. (★3)

CIV E 679 Advanced Topics in Structural Engineering
3.0 (either term, 3-0-0). (★3)

CIV E 680 Engineering Properties of Soils
4.0 (first term, 3-1s-1). Principle of effective stress, clay-water systems, soil compressibility and theories of consolidation. Pore pressure parameters. Strength of granular and cohesive media. Anisotropy of soils. Laboratory measurement of strength and deformation properties. Stress-strain relations. (★3)

CIV E 681 Seepage and Drainage
4.0 (first term, 3-1s-1). Elements of hydrogeology; regional groundwater flow, borehole logging methods. Theory of groundwater flow through soils and rocks, permeability, Darcy's law, field governing equations and their solution by approximate methods, finite difference and finite element methods, unsaturated flow. Civil engineering applications, seepage in earth structures, design of dewatering systems for excavations and slopes, field testing, grouting. (★3)

CIV E 683 Site Investigation Practice
3.0 (first term, 3-0-0). Techniques of site investigation for geotechnical engineering, *in situ* testing, instrumentation for field performance studies, case histories covering both rock and soil applications. (★3)

CIV E 684 Engineering Geology and Terrain Analysis
4.0 (second term, 3-1s-1). Information sources in engineering geology and terrain analysis, elements of the geology of sediments and glacial geology. Glacial and

periglacial land forms. Photogeology and airphoto interpretation applied to geotechnical engineering. Case histories based on specific materials and regional problems. (★3)

CIV E 687 Rock Engineering for Near Surface Structures
□3.0 (second term, 3-0-0). Deterministic and probabilistic design methods for rock slopes and foundations on rocks. Economic, operational and geological factors affecting design. Support and stabilization techniques, excavation methods, monitoring structures in and on rock, foundations for dams and for large loads. (★3)

CIV E 690 Advanced Foundation Engineering
□5.0 (second term, 4-1s-1). Theories of lateral pressures. Limit equilibrium methods, elasticity methods, semi-empirical methods. Soil anchors. Design of retaining walls and strutted excavations. Bearing capacity of shallow and deep foundations. Allowable settlement of structures. Analysis of settlement of shallow and deep foundations. Behaviour of pile groups. Design problems in foundation engineering. (★6)

CIV E 692 Tunnelling
□3.5 (second term, 3-1s-0). Methods of tunnelling, including excavation methods and support techniques, ground response, *in situ* and induced stress field, displacement field around deep and near surface tunnels, ground-support interaction, design criteria for tunnels in soil and rock, shaft design, site investigation practice and monitoring of tunnels. (★3)

CIV E 694 Permafrost Engineering
□4.0 (second term, 3-1s-1). Implications for northern development, extent, engineering classification, thermal regime, ground ice, genesis, site investigations, heat conduction in the ground, properties of frozen soil, thaw consolidation, freezing mechanisms, foundations in frozen ground; slope stability, highways and airfields, pipelines and earth dams in arctic and sub-arctic regions. Prerequisite: CIV E 590 or consent of Department. (★3)

CIV E 695 Soil Structures
□4.0 (second term, 3-1s-1). Stresses in slopes. Limit equilibrium methods of analysis. Landslides in soil. Design of earth dams and embankments. Case histories of earth and rockfill dams. Dam foundations. Soft ground tunnelling. (★3)

CIV E 696 Geotechnical Aspects in Highway Engineering
□3.0 (second term, 3-0-0). Terrain analysis for highway design, design and construction of highway embankments, quality control procedures, special treatments for soft foundations of embankments. Behaviour of compacted soils under repeated loading, swelling subgrade soils. Admixture stabilization using Portland cement, lime, bituminous materials or other chemicals. (★3)

CIV E 697 Rock Engineering
□4.0 (first term, 3-1s-1). Elements of structural geology, analysis of the geometry of rock defects, properties of intact rocks. Properties of rock masses and stresses in rock masses, stability of rock slopes. Rock foundations and underground excavations in rock. Case studies. (★3)

CIV E 698 Geotechnical Engineering of Oil Sands Development
□3.0 (either term, 3-0-0). Origin and distribution of oil sands; surficial geology, geomorphological setting and geology of oil sands deposits in Alberta; regional hydrogeology; material and geotechnical properties, and site investigation practice. Geotechnical engineering in surface mining projects; underground access projects; *in situ* recovery projects; plant site development, and development of infrastructures. (★3)

CIV E 699 Advanced Topics in Soil Mechanics
□3.0 (either term, 3-0-0). (★3)

204.16 Classics

Department of Classics
1-17 Humanities Centre
University of Alberta
Edmonton, Alberta T6G 2E5

204.16.1 General Information

The Department of Classics offers programs leading to the degrees of Master of Arts and Doctor of Philosophy.

The MA may be earned in Classics (Greek, Latin, and classical studies) in which some concentration is possible in ancient history, literature, or art and archaeology, or through specific specializations in Classical Literature, Classical Archaeology, or Ancient History.

The PhD may be earned in Classics (with concentration on language and specializations in literature, history, or archaeology) or in specific specializations in Ancient History, Classical Archaeology, or in a combination of fields (including Classical Literature and Classical Studies).

Requests for additional information should be addressed to the Chair, Committee on Graduate Studies, Department of Classics.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2).

Financial Assistance:

Financial assistance in the form of graduate assistantships is available.

204.16.2 The Degree of MA

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student.

The minimum period of residence is one academic year of full-time attendance at the University of Alberta.

Program Requirements of the Various Specializations:

For an MA in Classics the entrance requirement is an Honors degree in Greek and Latin.

The length of the program is one year (based on a BA Honors degree in Classics) with the addition of a qualifying year if necessary.

The program requirements are 15 units of course weight and a thesis (normally not exceeding 50 pages), plus a modern language requirement of one of German, French, or Italian.

The course work consists of a minimum of six units of course weight from the Department's graduate course offerings, GREEK 599 translation (supervised reading, with exam), LATIN 599 translation (supervised reading, with exam), three units of course weight inside or outside the Department on a subject relevant to the student's major area of study, and the thesis.

For an MA in Classical Literature the entrance requirement is a bachelor's degree with 15 units of course weight in Classics at the 300-level or above and 30 units of course weight in Greek and Latin, with at least 12 units of course weight in the minor language.

The length of the program is normally one year with the addition of a qualifying year if necessary.

The program requirements are 15 units of course weight at the 400-500 level, a thesis of 50 to 100 pages, and a modern language requirement in one of French, German, or Italian. The courses will consist of six units of course weight dealing with the major area of literary interest in Latin, Greek, or Classics; three units of course weight in Latin and three units of course weight in Greek on Literary subjects; and three units of course weight inside or outside the Department on a subject relevant to the student's area of study.

For an MA in Classical Archaeology the entrance requirement is a bachelor's degree with 21 units of course weight in Classical Archaeology, Art, Ancient History, or Civilization at the 300-level or above; and 24 units of course weight in Greek or Latin or both.

The length of the program is normally 1 1/2 years including fieldwork, plus a qualifying year if necessary.

The program requirements are 15 units of course weight at the 400- level or above, a thesis of 50 to 100 pages, and a modern language relevant to the student's proposed area of study. The courses will consist of six units of course weight in Classical Archaeology, Ancient Art, or Ancient History; three units of course weight inside or outside the Department on a subject relevant to the student's area of study; three units of course weight in a prose seminar in Greek or Latin sources; and three units of course weight of archaeological fieldwork or equivalent.

Note: Any student who enters the program without a second Classical language must take the 100-level of that language before beginning the thesis.

For an MA in Ancient History the entrance requirement is a bachelor's degree with 15 units of course weight in Ancient History of Civilization at the 300-level or above; 30 units of course weight, including the 100-level courses, in both Latin and Greek, with at least 12 units of course weight in each.

The length of the program is normally one year with the addition of a qualifying year if necessary.

The program requirements are 15 units of course weight at the 400-, 500-, or 600-level; a thesis of 50 to 100 pages; plus a modern language requirement in French, German, or Italian. The courses will consist of 6 units of course weight dealing with the major area of historical interest in Latin, Greek, or Classics; three units of course weight in Latin and three units of course weight in Greek on historical subjects; and three units of course weight inside or outside the Department on a subject relevant to the student's area of study.

Note: Students who have not attained the 300-level in one of the languages may make up the deficiencies while in the qualifying year or while registered as probationary students.

204.16.3 The Degree of PhD

Program Requirements:

Course requirements, language proficiency and length of program depend to some extent on the student's previous training and on the student's anticipated needs for the chosen area of specialization.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Program Requirements of the Various Specializations:

For a PhD in Classics the entrance requirement is an MA in Classics or equivalent.

The length of the program is three to four years, depending on previous preparation. Course work including PhD reading lists, can normally be completed in two years.

The program consists of the following:

(1) Eighteen units of course weight, including GREEK 695 and LATIN 695, each of which is a course of three units of course weight designed to complete the PhD reading list requirement. Nine units of course weight must be taken from the Department's 500-600-level Greek, Latin, and Classics course offerings. Another three units of course weight must be taken inside or outside the Department on a subject relevant to the student's area of specialization.

(2) A modern language requirement of one of German, French, or Italian. Normally this will be taken as part of the course work of the first year.

(3) Departmental qualifying examinations (one each in Greek and Latin) will normally be taken by the middle of the third candidacy year.
The period examinations will consist of two four-hour examinations on a period of Greek History and Culture (514-404 BC) and a period of Roman History and Culture (63 BC - 37 AD). In each of these examinations the candidate will be expected to answer in a detailed manner two of three questions in the field of history. The examining committee in consultation with the candidate may substitute a question on art for a question on literature and a question on archaeology or some other aspect of antiquity for a question on history.

(4) To be advanced to candidacy, students must pass a candidacy oral examination on the subject relevant to their general field of research.

(5) Thesis:
For a PhD in Classical Archaeology the entrance requirement is an MA in Classical Archaeology or equivalent.

The length of the program is three to four years depending on previous preparation. Course work can normally be completed in one year, but for students deficient in a required language an additional year may be necessary.

The program requirements are 18 units of course weight, at least nine of which must be in the Department of Classics at the 500-600 level and three of which must be fieldwork or the equivalent. These requirements will normally be completed in the first year. The prerequisites for advancement to PhD candidacy are two author courses in Greek or Latin, whichever is the major language; a 300-level course in Greek or Latin, whichever is the minor language; demonstrated reading knowledge of two modern languages relevant to the student's field of study; successful completion of one PhD candidacy examination on the major ancient literary and archaeological sources relevant to the study of Classical or Hellenistic Greek art, monuments and topography; and successful completion of one PhD candidacy examination on the major ancient literary and archaeological sources relevant to the study of Roman Republican or Imperial art, monuments and topography.

The thesis will normally not exceed 300 pages.

For a PhD in Ancient History the entrance requirements are an MA in Ancient History or equivalent and consent of the Department based on promise in research.

The length of the program is normally three to four years.

The first candidacy year consists of 18 units of course weight from the Department's graduate course offerings in Ancient History or Archaeology; and a modern language requirement of one of German, French, or Italian, whichever has not been passed at the MA level.

In the second candidacy year very well qualified students may be able to begin tests on the PhD Reading Lists in September. Others may need to wait until April. The PhD Reading Lists will then be followed by tests on Greek History and Roman History and a candidacy examination.

The third candidacy year consist only of work on the thesis, if all the examinations have been completed.

For a PhD in Classical Studies the entrance requirement is an MA in Ancient History, Classical Archaeology, Classical Literature, or Classics, with the consent of the Department based on promise of research.

The length of the program is normally three to four years.

The first candidacy year normally consists of 18 units of course weight from the offerings of the Department at the graduate level in areas appropriate to the specialization of the student: three units of course weight at the graduate level, however, may be taken outside the Department in an area relevant to the student's specialization; and three units of course weight of German, French, or Italian which has not been taken at the MA level.

204.16.4 Graduate Courses

THES 900 Thesis
THES 999 Thesis

Classics

CLASS 460 Topics in Ancient Near Eastern History
★3 (either term, 0-3s-0). Prerequisite: Any one of CLASS 369, 370, or consent of department.

CLASS 461 Topics in Roman Imperial History I
★3 (first term, 0-3s-0). Prerequisite: Any one of CLASS 365, 366, 371, 372, or consent of department.

CLASS 462 Topics in Roman Imperial History II
★3 (second term, 0-3s-0). Prerequisite: Any one of CLASS 365, 366, 371, 372, or consent of department.

CLASS 463 Topics in Roman Republican History I
★3 (first term, 0-3s-0). Prerequisite: Any one of CLASS 365, 366, 371, 372, or consent of department.

CLASS 464 Topics in Roman Republican History II
★3 (second term, 0-3s-0). Prerequisite: Any one of CLASS 365, 366, 371, 372, or consent of department.

CLASS 465 Topics in Hellenistic History I
★3 (first term, 0-3s-0). Prerequisite: Any one of CLASS 363, 364, or consent of department.

CLASS 466 Topics in Hellenistic History II
★3 (second term, 0-3s-0). Prerequisite: Any one of CLASS 363, 364, or consent of department.

CLASS 467 Topics in Early Greek History I
★3 (first term, 0-3s-0). Prerequisite: Any one of CLASS 363, 364, or consent of department.

CLASS 469 Topics in Classical Greek History I
★3 (first term, 0-3s-0). Prerequisite: Any one of CLASS 363, 364, or consent of department.

CLASS 470 Topics in Classical Greek History II
★3 (second term, 0-3s-0). Prerequisite: Any one of CLASS 363, 364, or consent of department.

CLASS 471 Regional Studies in Ancient History I
★3 (first term, 0-3s-0).

CLASS 472 Regional Studies in Ancient History II
★3 (second term, 0-3s-0).

CLASS 473 Topics in Greek and Italian Archaeology I
★3 (first term, 0-3s-0). Prerequisite: Any one of CLASS 363, 364, 367, or consent of department.

CLASS 474 Topics in the Archaeology of Italy and the Roman Empire
★3 (either term, 0-3s-0). Prerequisite: Any one of CLASS 365, 366, 368, 371, 372, or consent of department.

CLASS 475 Practical Methods in Classical Archaeology
★3, or ★6 (either term, 0-10L-0). Prerequisite: Consent of department. Note: Offered only for field work in the archaeology of the Greek and Roman world and restricted to those participating in an excavation sponsored by the Department.

CLASS 476 Advanced Field Techniques in Classical Archaeology
★3, or ★6 (either term, 0-10L-0). Prerequisite: CLASS 475 or equivalent and consent of department. Note: Offered in Summer only for field work in the archaeology of the Greek and Roman world and restricted to those participating in an excavation sponsored by the Department.

CLASS 477 Topics in Greek Art
★3 (first term, 0-3s-0). Prerequisite: CLASS 367 or consent of instructor.

CLASS 478 Topics in Roman Art
★3 (second term, 0-3s-0). Prerequisite: CLASS 368 or consent of department.

CLASS 481 Greek and Latin Epic I
★3 (first term, 0-3s-0). Prerequisite: Any one of the CLASS 359, 360, 379, or consent of department.

CLASS 483 Greek and Roman Tragedy I
★3 (first term, 0-3s-0). Prerequisite: Any one of the CLASS 359, 360, 380, or consent of department.

CLASS 484 Greek and Roman Tragedy II
★3 (second term, 0-3s-0). Prerequisite: Any one of the CLASS 359, 360, 380, or consent of department.

CLASS 497 Topics on Women in Classical Antiquity
★3 (either term, 0-3s-0). Prerequisite: CLASS 361 or any 300-level cross-listed course in Women's Studies, or consent of department.

CLASS 498 Individual Study of Literary Problems
★3 (either term, 0-3s-0). Prerequisite: Any one of CLASS 359, 360, 361, 379, 380, or consent of department.

CLASS 499 Individual Study of Historical Problems
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

CLASS 510 Readings in Classical Archaeology
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

CLASS 511 Topics in the Iron Age in Italy
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

CLASS 512 Topics in the Archaeology of Magna Graecia
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

CLASS 513 Topics in the Archaeology of Roman Italy
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

CLASS 514 Topics in the Archaeology of Egypt and the Ancient Near East
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

CLASS 515 Topics in the Archaeology of Greece
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

CLASS 516 Topics in the Archaeology of the Roman Provinces
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

CLASS 520 Readings in Historical Sources
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

CLASS 522 Studies in Ancient History
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

CLASS 525 Topics in Greek and Latin Literature
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

CLASS 601 Studies in Classical Archaeology I
★3 (either term, 0-3s-0).

CLASS 602 Studies in Classical Archaeology II
★3 (either term, 0-3s-0).

CLASS 699 Conference Course (Thesis)
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

Greek

GREEK 501 Greek Epic and Didactic Poetry
★3 (either term, 3-0-0).

GREEK 503 Greek Drama
★3 (either term, 3-0-0).

GREEK 505 Greek Poetry
★3 (either term, 3-0-0).

GREEK 507 Greek Historiography
★3 (either term, 3-0-0).

GREEK 509 Greek Prose Writers
★3 (either term, 3-0-0).

GREEK 511 Greek Prose Composition and Unseens
★3 (either term, 3-0-0). Prerequisite: GREEK 411 or consent of department.

GREEK 513 Topics in Greek Language
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

GREEK 551 Topics in Greek Literature
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

GREEK 599 Supervised Reading
★3 (either term, 3-0-0).

GREEK 600 Seminar
★3 (either term, 0-3s-0).

GREEK 695 Greek Reading List
★3 (either term, 3-0-0).

GREEK 699 Conference Course
★3 (either term, 3-0-0).

Latin

LATIN 502 Latin Epic and Didactic Poetry
★3 (either term, 3-0-0).

LATIN 504 Latin Drama
★3 (either term, 3-0-0).

LATIN 506 Latin Poetry
★3 (either term, 3-0-0).

LATIN 508 Latin Historiography
★3 (either term, 3-0-0).

LATIN 510 Latin Prose Writers
★3 (either term, 3-0-0).

LATIN 511 Latin Prose Composition and Unseens
★3 (either term, 3-0-0). Prerequisite: LATIN 411 or consent of department.

LATIN 513 Topics in Latin Language
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

LATIN 562 Topics in Latin Literature
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

LATIN 599 Supervised Reading
★3 (either term, 3-0-0).

LATIN 600 Seminar
★3 (either term, 0-3s-0).

LATIN 695 Latin Reading List
★3 (either term, 3-0-0).

LATIN 699 Conference Course
★3 (either term, 3-0-0).

204.17 Clothing and Textiles

Department of Clothing and Textiles
301 Printing Services Building
University of Alberta
Edmonton, Alberta T6G 2N1

204.17.1 General Information

The Department of Clothing and Textiles offers graduate work leading to the degrees of MA and MSc in Clothing and Textiles and the degree of MSc in Consumer Studies.

A postgraduate diploma in textile conservation and curatorship is also offered. The aim of the diploma program is to provide museum professionals, who have had some practical field experience, the opportunity to obtain additional theoretical knowledge in such areas as textile science, history of costume and textiles, and textile conservation and curatorship.

The research laboratories are well equipped with up-to-date, well maintained instruments. The library facilities in all areas of specialization are excellent. The Department possesses an outstanding collection of clothing and textiles from a variety of time periods and cultures.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and both a TOEFL score of 570 and a Test of Spoken English score of 200 where applicable (see §202.2.2). An applicant proceeding from either a three-year program in a related field or a four-year program in a different field may be admitted as a qualifying student.

Financial Assistance:

A limited number of teaching and research assistantships are available for well qualified applicants.

204.17.2 The Degrees of MSc and MA

Program Requirements:

Requirements for the master's degree include 18 units of course weight including CLTX 600, 619, and 620. Beyond the required 18 units of course weight students may enroll in additional courses depending on undergraduate background and the nature of the research problem under investigation. All candidates for the master's degree are required to conduct thesis research.

There is a residence requirement of two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time to complete the master's degree will vary with the individual candidate; however, a minimum of two years is normally required.

204.17.3 The Postgraduate Diploma Program

Entrance Requirements:

Students entering the program are required to have a grade point average of 6.5 in the final two years of a four-year degree in a field related to the conservation or curatorship of textiles from the University of Alberta or equivalent, two or more years of work experience in the museum field related to clothing and textiles, and one year each of college-level chemistry and history or art history. Applicants who have not completed a formal Museum Studies program will be advised to complete a museum studies course.

Program Requirements:

Students must successfully complete 21 to 30 units of course weight with an academic standing no less than that acceptable to the Faculty of Graduate Studies and Research. An individual program for each student based on needs and prior experience will be approved by the Department's graduate program committee.

No period of residence is required.

Length of Program:

The time required to complete the diploma program will vary; however, the diploma must be completed within four years from the first registration in the program.

204.17.4 Undergraduate Courses

The following table lists renumbered undergraduate courses effective 1991-92:

Old	New	Old	New
CL TX 400	CL TX 450	CL TX 408	CL TX 460
CL TX 402	CL TX 355	CL TX 409	CL TX 470
CL TX 403	CL TX 368	CL TX 410	CL TX 371
CL TX 404	CL TX 369	CL TX 411	CL TX 471
CL TX 405	CL TX 352	CL TX 418	CL TX 365
CL TX 406	CL TX 455	CL TX 419	CL TX 478

The following may be taken for graduate credit in Clothing and Textiles.

CL TX 352 Textile Design II
★3 (either term, 2-0-4). An advanced studio course in various methods of printing and dyeing textiles with a major component of independent study. Prerequisite: CL TX 252 and consent of instructor.

CL TX 355 Advanced Apparel Design and Construction
★3 (second term, 3-0-3). Application of advanced pattern making and construction techniques through the process of product design. Prerequisite: CL TX 255.

CL TX 365 Clothing and Textile Policy
★3 (first term, 3-0-0). Government policies and programs regarding consumer protection, worker protection and environmental protection as they affect the clothing and textile market; international trade agreements and commercial policies for the textile and apparel market. To be offered in alternate years. Prerequisite: CL TX 160 and ECON 102. Formerly CL TX 416. Note: May not be taken for credit by students with credit in CL TX 416.

CL TX 368 History of Costume
★3 (first term, 3-0-3). Evolution of Western fashionable dress from ancient times to the present. Emphasis on primary sources from the nineteenth and twentieth centuries. Prerequisite: Three single-term courses in history or art history or consent of instructor.

CL TX 369 Historic and Cross Cultural Textiles
★3 (second term, 3-0-3). Textiles from a variety of cultures and time periods; their social significance, production, structure design, and the influence on contemporary design. Prerequisite: Three single-term courses in history, art history, design history or anthropology or consent of instructor.

CL TX 371 Textile Performance Testing
★3 (second term, 3-0-3). Relationship of textile performance to end use. Physical testing and evaluation focusing on consumer products. Textile standards and specifications. Prerequisite: CL TX 271.

CL TX 450 Design in Everyday Living
★3 (either term, 3-0-3). Introduction to design at the senior level; development of visual awareness and aesthetic appreciation. Prerequisite: Graduate standing and permission of instructor. Note: May not be taken for credit by students with credit in CL TX 150.

CL TX 455 Clothing Construction
★3 (second term, 3-0-3). Application of basic principles of clothing construction and fitting to garments made of fabrics requiring special techniques. Prerequisite: Graduate standing and permission of instructor. Note: May not be taken for credit by students with credit in CL TX 301 and CL TX 303.

CL TX 460 Clothing and Textiles: A Social Science Perspective
★3 (first term, 3-0-0). Senior level application of a multidisciplinary, social science approach to the study of clothing and textiles. Prerequisite: Graduate standing and permission of instructor. Note: May not be taken for credit by students with credit in CL TX 160.

CL TX 470 Textile Science
★3 (second term, 3-1s-2). An introduction to textile concepts and principles. Prerequisite: Graduate standing and permission of instructor. Note: May not be taken for credit by students with credit in both CL TX 270 and CL TX 271.

CL TX 471 Advanced Textiles
★3 (second term, 3-0-3). Fiber microscopy, study of major classes of dyes, polymer formation, special polymers, and textile finishes. Chemical reactivity and specialized physical testing. Prerequisite: CL TX 271. Corequisite: CHEM 100.

CL TX 478 Preventive Textile Conservation
★3 (first term, 3-0-3). Theoretical and practical investigation of the preventive care of textiles and costumes in museums or related institutions. Topics include an overview of deteriorating factors, as well as procedures for handling, storage, display, and preventive treatment. Museum collections and personnel will augment university lecture, seminar, laboratory and study collection facilities. Prerequisite: CL TX 270, 368, and 369 or consent of instructor.

204.17.5 Graduate Courses

The following table lists renumbered graduate courses effective 1991-92:

Old	New	Old	New
CL TX 500	CL TX 590	CL TX 519	CL TX 578
CL TX 502	CL TX 592	CL TX 520	CL TX 619
CL TX 503	CL TX 593	CL TX 602	CL TX 692
CL TX 505	CL TX 594	CL TX 603	CL TX 668
CL TX 506	CL TX 595	CL TX 604	CL TX 694
CL TX 507	CL TX 598	CL TX 618	CL TX 665
CL TX 508	CL TX 599		

THES 900 Thesis
THES 999 Thesis

Clothing and Textiles

CL TX 578 Textile Conservation Theory and Practice
★3 (second term, 3-0-3).Theoretical and practical investigation of the degradation and treatment of historic textiles and costumes. Lecture and laboratory experience will include an in-depth study of factors affecting the degradation of fibres, as well as methods of cleaning, bleaching, and consolidation. Prerequisites: CL TX 271 and 478.

CL TX 590 Clothing and Textile Seminar
★3 (either term, 0-3s-0). Research reporting and information retrieval methods. Preparation and presentation of seminar based on an in-depth analysis of the research literature on selected topics. Open only to clothing and textiles students who have completed 90 course weights. Prerequisite: HEC 359.

CL TX 592 Independent Study I
★3 (either term, 0-0-6). Independent study planned by student in consultation with faculty from one of the following areas or suitable combination of areas: Textile Science; Housing; Interiors or Furniture Design; Textile or Apparel Design; History of Costume, Textiile or Furniture; Textile Conservation and Clothing for Special Needs. Prerequisite: Senior course(s) in respective area or consent of instructor.

CL TX 593 Independent Study II
★3 (either term, 0-0-6). Independent study planned by student in consultation with faculty from one of the following areas or suitable combination of areas: Textile Science; Housing; Interiors or Furniture Design; Textile or Apparel Design; History of Costume, Textile or Furniture; Textile Conservation and Clothing for Special Needs. Prerequisite: Senior course(s) in respective area or consent of instructor.

CL TX 594 Practicum in Selected Areas
★6 (either term, or full session). Supervised field experience. Open only to Clothing and Textiles students who have completed 90 credits. Prerequisite: CL TX 150, 155, 160, 271, H EC 300 and 359; senior course in respective area and consent of the Practicum Coordinator. Not allowed if student has credit in CL TX 595.

CL TX 595 Practicum in Selected Areas
★3 (either term, 0-1s-8). Supervised field experience. Open only to Clothing and Textiles students who have completed 90 credits. Prerequisite: CL TX 150, 155, 160, CL TX 271, H EC 300 and 359; senior courses in respective area and consent of the Practicum Coordinator. Not allowed if student has credit in CL TX 594.

CL TX 598 Historic Resources Internship I
★3 (0-1s-8). Internship with an institution involved in historic resources conservation. Normally offered in Intersession by special arrangement. Prerequisite: CL TX 578 or consent of Department.

CL TX 599 Historic Resources Internship II
★3 (0-1s-8). Continuation of CL TX 598. Normally offered in Intersession by special arrangement. Prerequisite: CL TX 598 and consent of Department.

CL TX 600 Clothing and Textile Graduate Seminar
★1 (either term, 0-1s-0). Required of all graduate students who may normally register up to three times for a maximum of three credits.

CL TX 619 Literature Review
★3 (first term, 3-0-0). A survey of the clothing and textiles research literature obtained from the application of information retrieval techniques to the numerous secondary services which cover the literature. Prerequisite: Graduate standing or consent of instructor.

CL TX 620 Research Methods in Clothing and Textiles
★3 (second term, 3-0-0). A study of various types of research in clothing and textiles and the development of a research proposal with specific attention to: objectives of study, theoretical framework, hypotheses, sampling, data collection, analyses and interpretation of findings. Prerequisite: A half course in statistics and CL TX 619 or consent of instructor.

CL TX 660 Research in Cross-Cultural Clothing and Textiles
★3 (either term, 0-3s-0). Focus to be in-depth and specific; topics selected will depend on the needs and interests of course participants and may be oriented to primary data (archival or field) and/or secondary sources. Prerequisite: Consent of instructor.

CL TX 665 Consumer Research in Textiles and Clothing
★3 (either term, 0-3s-0). A study of conceptual frameworks for consumer research. Familiarization with the consumer research literature in textiles and clothing, with emphasis on developments in theory. Prerequisite: MARK 422 or consent of the instructor.

CL TX 668 Curatorial Research in Clothing and Textiles
★3 (either term, 0-3s-0). Investigation of past, current and potential research of concern to museum curators. Prerequisite: CL TX 368, 369, 619 or consent of instructor.

CL TX 692 Independent Study III
★3 (either term, 0-0-6). Offered by permission of instructor only.

CL TX 694 Independent Study IV
★3 (either term, 0-0-6). Offered by permission of instructor only.

Home Economics

H EC 500 Perspectives in Home Economics/Human Ecology
★3 (either term, 3-0-0). Historical and philosphical perspectives about the nature and purpose of home economics/human ecology; exploration of professional issues and alternative modes of professional practice. Restricted to Graduate students only.

H EC 501 Independent Project in Home Economics
★3 (either term, 0-0-6). Independent study of topics in home economics planned by the student in consultation with the instructor. Prerequisite: Graduate standing.

H EC 600 Home Economics Graduate Seminar
★1 (either term, 0-1s-0).Graduate students may register up to three times for a minimum of three credits.

204.17.6 Reserve List

The following table lists renumbered reserve list courses effective 1991-92:

Old	New	Old	New
CL TX 407	CL TX 356	CL TX 433	CL TX 465
CL TX 414	CL TX 364	CL TX 434	CL TX 481
CL TX 417	CL TX 480	CL TX 510	CL TX 580
CL TX 430	CL TX 452	CL TX 511	CL TX 581
CL TX 431	CL TX 456	CL TX 512	CL TX 582
CL TX 432	CL TX 451	CL TX 517	CL TX 591

The Department is unable to offer the following courses regularly. Students should consult the Department for further information.

CL TX 356 Tailoring
★3 (first term, 3-0-3). Note: To be offered only when staffing allows. Prerequisite: CL TX 155 or consent of instructor.

. TX 364 Socio-Psychological Bases of Clothing
3 (either term, 3-0-0). Clothing as a stimulus and sponse in the establishment, maintenance and en-ncement of the self. Clothing as an expression of llective and individual behavior. Prerequisite: CL TX 0; and any two of SOC 100, SOC 102, PSYCO 104, SYCO 105; or consent of instructor.

. TX 451 Selected Topics in Housing
3 (3-0-3). Normally offered in Intersession.

. TX 452 Selected Topics in Textile Design
3 (3-0-3). Normally offered in Intersession.

. TX 456 Selected Topics in Apparel Design
3 (2-0-4). Normally offered in Intersession.

. TX 465 Selected Topics in Textile and Apparel erchandising
3 (3-0-0). Normally offered in Intersession.

. TX 480 Selected Topics
3 (either term, 3-0-0, or 3-0-3, or 2-0-4). Topics of rrent interest in clothing, textiles and design. Prereq-isite: Varies with specific offering.

. TX 481 Clothing and Textiles Study Tour
3 (1-1s-6). Normally offered in Intersession.

. TX 580 Current Issues in Clothing and Textiles I
1 (either term, 0-1s-0). Prerequisite: varies with offer-g. Note: The combination of all three of CL TX 580, 81, 582 constitutes the equivalent of a single term ourse of full weight.

. TX 581 Current Issues in Clothing and Textiles II
1 (either term, 0-1s-0). Prerequisite: varies with offer-g. Note: The combination of all three of CL TX 580, 81, 582 constitutes the equivalent of a single term ourse of full weight.

. TX 582 Current Issues in Clothing and extiles III
1 (either term, 0-1s-0). Prerequisite: varies with offer-g. Note: The combination of all three of CL TX 580, 81, 582 constitutes the equivalent of a single term ourse of full weight.

. TX 591 Selected Topics
3 (either term, 3-0-0, or 3-0-3, or 2-0-4). Topics of urrent interest in clothing, textiles and design. Prereq-isite: Senior courses(s) in respective area(s).

204.18 Comparative Literature

Department of Comparative Literature
47 Arts Building
University of Alberta
Edmonton, Alberta T6G 2E6

204.18.1 General Information

The Department of Comparative Literature offers programs leading to the degrees of Master of Arts and Doctor of Philosophy in all literatures taught at this University.

Inquiries concerning academic programs should be addressed to the Chair of the Department.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 7.0 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2).

Applicants for graduate work in comparative literature should, in their previous programs, have concentrated on the literature of one or two languages. They must have a competent reading knowledge of at least one language other than English in order to undertake an MA program, and of at least two languages other than English in order to undertake a PhD program.

Financial Assistance:

Graduate assistantships, tenable in Comparative Literature or in a department corresponding to the language in which the student has specialized, as well as scholarships and fellowships are available to qualified students. For details see the Awards section of the Calendar.

204.18.2 The Degree of MA

Program Requirements:

In addition to the thesis, 24 units of course weight are normally required for an MA. The number of courses and their areas shall be determined individually.

For information on the language requirements for the MA program see "Entrance Requirements" above; details may be obtained by writing to the Chair of the Department.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

A candidate for the MA entering from a four-year specialized program and continuing work in the same field is normally required to complete the equivalent of one calendar year's work. Other candidates are normally required to complete the equivalent of two years' work.

204.18.3 The Degree of PhD

Program Requirements:

In addition to the thesis, 36 units of course weight in graduate courses are normally required for the degree of PhD. The PhD candidacy examination consists of a departmental examination (the description of which is available in the Department) and the oral (as described under §203.2.1(8)).

For information on the language requirements for the PhD program see "Entrance Requirements" above; details may be obtained by writing to the Chair of the Department.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time necessary to complete the requirements for the PhD depends upon the student's progress. For a student with a BA, the minimum requirement is three academic years of study and research, of which two academic years must be in residence at the University of Alberta. For a student with an MA, the minimum requirement is two years of study and research in residence at the University of Alberta. Details are determined by the Department, and an alternative method of meeting the residence requirement may be considered on recommendation of the Department to the Faculty of Graduate Studies and Research.

204.18.4 Graduate Courses

THES 900 Thesis
THES 999 Thesis

C LIT 500 Literary Scholarship: Methods and Techniques
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 501 Studies in World Literature I
★3 (either term, 3-1s-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 502 Studies in World Literature II
★3 (either term, 3-1s-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 504 Studies in the Relationship of Literature with the Visual Arts
★3 (either term, 3-0-0). Prerequisite: One senior-level course in art history, one senior-level course in literature, and reading knowledge of one relevant language other than English. Corequisite: ART H 504.

C LIT 505 The Theory of the Study of Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 507 Literary Stylistics
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 510 Poetics: The Nature and Forms of Poetry
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 511 Comparative Studies in "Formalistic" Approaches to Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 512 Theory of Translation
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 514 Literature and Oral Tradition
★3 (either term, 3-0-0). Prerequisite: Reading knowledge of any relevant ancient or modern language other than English.

C LIT 515 Studies in Folklore: Prose Forms
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 516 Studies in Folklore: Poetic Forms
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 517 The Greek and Latin Tradition in European Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Some knowledge of Greek but more particularly of Latin, or consent of Department.

C LIT 518 The Biblical Tradition in Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 519 Comparative Studies in the Asian and Western Tradition
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English (e.g., German, French).

C LIT 520 Comparative Studies in Medieval Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of either Latin, or French or the consent of Department.

C LIT 521 Directed Reading Course I
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

C LIT 522 Directed Reading Course II
★3 (either term, 0-3s-0). Prerequisite: Consent of Department.

C LIT 529 Studies in Renaissance Literary Theory and Criticism
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 530 Comparative Studies in European Drama of the Sixteenth and Seventeenth Centuries
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 545 Comparative Studies in Eighteenth-Century Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 547 Studies in Western Tradition in Literary Criticism I
★3 (either term, 3-1s-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 548 Studies in Western Tradition in Literary Criticism II
★3 (either term, 3-1s-0). Prerequisite: C LIT 547, or consent of Department.

C LIT 549 Studies in Western Tradition in Literary Criticism III
★3 (either term, 3-1s-0). Prerequisite: C LIT 548, or consent of Department.

C LIT 550 Comparative Studies in Romantic Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 552 Comparative Studies in Realistic Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 553 Comparative Studies in Naturalistic Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 554 Comparative Studies in the Novel
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 555 Comparative Studies in Literature of the Late Nineteenth Century
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 556 Advanced Studies in Comparative Third-World Literatures
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of French, Spanish, or Portuguese, or consent of Department.

C LIT 560 Comparative Studies in Canadian Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 565 Comparative Studies in the Epic
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 567 The Romance
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 568 Comparative Studies in the Pastoral
★3 (either term, 3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 570 Comparative Studies in Comedy
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 575 Tragedy: A Theoretical Approach
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 580 Comparative Studies in Literary Parody
★3 (either term, 3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 585 Studies of Forms and Genres
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 590 Studies of Motifs and Themes
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one language other than English.

C LIT 595 Special Topics in Comparative Literary History
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English

C LIT 599 Tutorial
★0 (2-0-0). Prerequisite: Participation in a graduate degree program in Comparative Literature.

C LIT 609 Special Topics in Asian Literary Theory and Criticism
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 610 Special Topics in Literary Theory and Criticism
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 611 Marxist Literary Theory and Criticism
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of at least one relevant language other than English.

C LIT 612 Marxist Concepts of Literature in the Twentieth Century
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 628 Comparative Studies in Renaissance and Baroque Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 638 Avant-garde Trends in Twentieth-Century European and American Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 640 Socialist Realism: Theory and Practice
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 641 Surrealism: Theory and Practice
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 642 Literary Existentialism: Theory and Practice
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 645 Comparative Studies in Twentieth Century Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 646 Comparative Studies in Modern Drama
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of one relevant language other than English.

C LIT 648 Comparative Studies in French and English Literature, 1830-1900
★3 (either term, 3-0-0) or ★6 (3-0-0).

C LIT 649 Franco-German Literary Relations during the Nineteenth Century
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of French and German.

C LIT 695 Anglo-German Literary Relations from the Sixteenth to the Nineteenth Centuries
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Reading knowledge of German.

C LIT 696 Seminar Course
★3 (either term, 0-3s-0) or ★6 (0-3s-0). Prerequisite: Reading knowledge of two languages other than English.

C LIT 697 Special Reading Course I
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

C LIT 698 Special Reading Course II
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

C LIT 699 Conference Course
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

204.19 Computing Science

Department of Computing Science
615 General Services Building
University of Alberta
Edmonton, Alberta T6G 2H1

204.19.1 General Information

The Computing Science Department offers programs leading to the degrees of Master of Science and Doctor of Philosophy in a number of fields, including artificial intelligence, database management, design and analysis of computer algorithms, computer graphics, image processing, computer architecture, numerical analysis, operating systems, programming languages, simulation studies, software engineering, symbolic manipulation, and theory of computation.

The Department owns and operates a network of computers, including several CPU servers and a large number of SUN workstations, all running under UNIX. Other departmental facilities include Xerox Lisp machines, a variety of mini- and microcomputer systems and a number of graphics display and image processing systems. Besides these, the Department provides terminal access to the University's Amdahl 5870, which operates under the Michigan Terminal System (MTS), as well as IBM mainframes.

Further information may be obtained from the Chair, Graduate Committee, Department of Computing Science.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 600 where applicable (see §202.2.2).

A departmental admission requirement for non-Canadians, as well as Canadians with a degree from a non-Canadian university, is that they write the Graduate Record Examinations (verbal, quantitative and analytical [a minimum score of 1900], and if appropriate, advanced) administered by the Educational Testing Service (Princeton, NJ). The GRE is also recommended for students with backgrounds unrelated to Computing Science. The examinations should be written early enough so that scores will be available at the same time as the applicant's other supporting documents.

Students in all degree programs will be expected to satisfy the requirements currently in force with respect to attendance at departmental colloquia and seminars, and the public presentation of students' research results.

Financial Assistance:

Financial assistance is available throughout the calendar year in the form of graduate assistantships and research grant assistantships. In order to be considered for assistance, students must maintain satisfactory academic performance.

204.19.2 The Degree of MSc

Entrance Requirements:

Candidates for the MSc degree in computing science must have an Honors degree or the equivalent from a recognized university, with a background in computing science and mathematics at least equivalent to the computing science and mathematics courses required in the first three years of the Honors program in computing science at the University of Alberta. Students who do not meet these requirements must take additional courses to those required in the MSc program, either concurrently with the graduate program or in a year of study prior to admission as MSc candidates.

Program Requirements:

After acceptance into the MSc program, candidates will be required to take a minimum of 18 units of course weight in graduate courses and write a thesis. Students who do not obtain an average of 6.75 over the best four courses and an average of 6.5 over six courses in the first year of studies may be asked to withdraw from the graduate program.

No language other than English is required for the degree.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The program can be completed in about 20 months of full-time study.

204.19.3 The Degree of PhD

Entrance Requirements:

To be admitted as a provisional candidate for the PhD, a student must normally have an MSc degree in computing science or a related field. Unusually qualified applicants having the equivalent of a First-Class Honors BSc degree, or MSc candidates who perform unusually well in their first term (four months) of studies, may be admitted directly into the PhD program.

Program Requirements:

A PhD candidate with an MSc degree will be required to take a minimum of 12 units of course weight in graduate courses and satisfy the departmental breadth requirements. A PhD candidate who does not obtain an average of 7.5 over the best four courses in the first year of studies may be asked to withdraw from the doctoral program, but may be admissible to the MSc program. The major part of the student's program will consist of original research, the result of which will be presented in a doctoral thesis.

No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of 32 months is normally necessary.

204.19.4 Undergraduate Courses

Students entering the graduate program are expected to have an adequate background in computing science. Students lacking adequate background may be required to take one or more of the following courses in addition to their regular graduate program.

CMPUT 301 Software Engineering
★3 (either term, 3-0-3). The software lifecycle: specifications, design, coding, testing, documentation and maintenance. Project organization including development tools, resource estimation, team organization and review. The class will organize and implement a complete software project. Prerequisite: CMPUT 225.

CMPUT 304 Algorithms II
★3 (first term, 3-0-0). The second course of a two course sequence on algorithm design. Emphasis on principles of algorithm design. Categories of algorithms such as divide-and-conquer, greedy algorithms, dynamic programming; analysis of algorithms; limits of algorithm design; NP-completeness; heuristic algorithms. Prerequisite: CMPUT 204.

CMPUT 311 Introduction to Computer Graphics
★3 (either term, 3-0-3). Graphical input and output devices primitives; segments; interactive input techniques; user interface design; windowing and clipping. 2-D and 3-D transformation; 3-D modeling and viewing; hidden-line and hidden-surface removal. Prerequisite: CMPUT 280.

CMPUT 319 Numerical Analysis I
★3 (first term, 3-0-2). An introduction to selected topics in numerical analysis. Areas covered will include floating point arithmetic and error analysis, systems of linear equation, interpolation, approximation, numerical integration and roots of nonlinear equations. Prerequisite: CMPUT 204, MATH 120 and 215. Credit cannot be obtained for more than one of CMPUT 319, 340, 358, MATH 280 or 486.

CMPUT 329 Computer Design and VLSI Implementation
★3 (either term, 3-0-3). Design of digital circuits; functional and structural representations; VLSI implementations. Computer design languages. testing and verification. Digital arithmetic. Prerequisite: CMPUT 285.

CMPUT 334 Computer Systems and Architecture
★3 (either term, 3-0-3). An investigation of computer system design concepts including requirements, specifications, implementation and modification. Instruction sets, arithmetic/logic unit design, bus structures, I/O structures, control organization and implementation. Discussion and use of hardware description languages. Prerequisite: CMPUT 285.

MPUT 340 Introduction to Numerical Methods
(first term, 3-1s-3). Introduction to computer arithmetic d errors. The study of computational methods for solv- problems in linear algebra, non-linear equations, inter- ation and approximation, integration and ordinary differential uations. The aim is to teach the student how to use thematical subroutine packages currently available in mputer libraries. Prerequisite: CMPUT 172, MATH 120 d 214. Credit cannot be obtained for more than one of MPUT 319, 340, 358 or MATH 280 or 486.

MPUT 350 Introduction to Artificial Intelligence
3 (either term, 3-0-3). Problem representation, search, erence, and learning in intelligent systems; systems general problem solving, game playing, deduction, pert consultation, computer vision, concept formation, d natural language understanding. Prerequisite: CMPUT 4 and 225.

MPUT 374 Formal Languages, Automata, and omputability
3 (second term, 3-0-0). Formal grammars; normal rms; relationship between grammars and automata; gular expressions; finite state machines; state mini- ization; pushdown automata; Turing machines; comput- bility; the Halting Problem; introduction to recursive function eory. Prerequisite: CMPUT 204, MATH 223 or 382.

MPUT 379 Operating System Concepts
3 (either term, 3-0-3). Definition of a process; process tates and state transitions; process control block; op- rations on processes; interrupt processing; parallel rocessing; resource allocation; shared and unshared llocation; critical sections; semaphores; deadlock; deadlock revention, avoidance, detection and recovery; memory anagement; memory allocation schemes; virtual memory; aging and segmentation; page replacement strategies; orking sets; demand paging; job and processor sched- uling; scheduling levels, objectives and criteria; various cheduling algorithms; multi-processor considerations; le system functions; file organization; tree structured le systems; space allocation; file catalogs; file access ontrol mechanisms; operating systems security. Pre- equisite: CMPUT 204, 225, and 285.

MPUT 384 Systems Programming
3 (either term, 3-0-3). Introduction to VM/SP (the irtual machine concept); the IBM-370 architecture (a eminder); correlation between various components of a omputing system (CPU, memory, channels, I/o de- ices); interrupt handling (hardware prerequisites, inter- upt classes and priorities, programming interrupt handlers); simple operating system for the IBM-370 (processes, PU scheduling, SVC requests); memory organization mapping techniques, virtual memory); VM implementa- ion (virtual CPU states, shadow tables); other computer rchitectures and their specific operating system imple- mentation problems: machines without interrupts (CDC- 6000/7000 series), and supercomputers (Cray, Cyber 205). Prerequisite: CMPUT 204, 225, and 285.

CMPUT 391 Database Management Systems
★3 (either term, 3-0-3). Logical data modeling process, elational database design (normalization), query rocessing, transaction management, new technological rends (distributed databases, object-orientation, knowl- edge base systems). Prerequisite: CMPUT 291.

CMPUT 495 Honors Seminar
★0 (either term, 0-1s-0). Prerequisite: A 300-level Computing Science course. Note: Required of all Honors Computing Science students during their degree program.

204.19.5 Graduate Courses

Note: In all cases where prerequisite courses are specified, the phrase "or equivalent courses taken at the University of Alberta or at another university" is understood. Where students are uncertain whether they meet prerequisite requirements, they should consult with their program adviser, and if necessary, with the instructor of the graduate course.

THES 900 Thesis
THES 999 Thesis

CMPUT 501 Topics in Computing Science
★3 (first term, 3-0-0).

CMPUT 502 Topics in Computing Science
★3 (second term, 3-0-0).

CMPUT 503 Topics in Computing Science
★3 (first term, 3-0-0).

CMPUT 504 Topics in Computing Science
★3 (second term, 3-0-0).

CMPUT 505 Efficient and Optimal Algorithms
★3 (second term, 3-0-0). Models of computation. Upper and lower bounds on time and storage requirements. Problems from: sorting and order statistics, graph and combinatorial geometry, algebraic computation, cryptography, pattern matching and decision problems. P vs NP and related questions, and provably intractable problems. Prerequisite: CMPUT 304.

CMPUT 506 Topics in Computing Science
★3 (second term, 3-0-0).

CMPUT 507 Topics in Computing Science
★3 (first term, 3-0-0).

CMPUT 508 Topics in Computing Science
★3 (second term, 3-0-0).

CMPUT 509 Topics in Computing Science
★3 (first term, 3-0-0).

CMPUT 511 Computer Graphics
★3 (first term, 3-0-3). Graphics hardware and software, 3D geometry, modeling, user interface, data structures, image generation, illumination models, scan conversion, paint programs. Prerequisite: CMPUT 311.

CMPUT 512 Topics in Computing Science
★3 (second term, 3-0-0).

CMPUT 513 Computer Networks
★3 (second term, 3-0-3). Review of: physical and data link layer protocols; transmission media and recent advances. Network, transport and higher layer protocols; satellite and packet radio networks. Local area networks: ring, bus, star. Design variables and performance measures. Prerequisite: CMPUT 313 and STAT 222 or 266 or CMPUT 322.

CMPUT 516 Topics in Operating Systems I
★3 (first term, 3-0-0). Prerequisite: CMPUT 416 or 385 or equivalent systems programming experience.

CMPUT 517 Topics in Operating Systems II
★3 (second term, 3-0-0). Prerequisite: CMPUT 516.

CMPUT 518 Topics in Numerical Analysis I
★3 (second term, 3-0-0). Prerequisite: CMPUT 419.

CMPUT 519 Topics in Numerical Analysis II
★3 (second term, 3-0-0). Prerequisite: CMPUT 518.

CMPUT 521 Computer Queueing Network Models 3
★3 (either term, 3-0-0). Overview of analysis for design and performance evalution of computer systems, networks, operating systems, databases and software. Open queueing models; concepts of stochastic processes, stationarity independence, Markovian properties, flow balance. Fundamental laws from operating queueing analysis, closed queueing networks; hierarchial modeling. Simulation of realistic applications. Prerequisite: CMPUT 322.

CMPUT 522 Topics in Performance Evaluation
★3 (first term, 3-0-0). Prerequisite: CMPUT 316 or 319 or 340; and STAT 222 or 266 or CMPUT 322.

CMPUT 525 Formal Syntax Analysis
★3 (first term, 3-0-0). Context-free grammars and other formalisms for describing syntax of programming languages. Regular grammars and finite state automata. Top-down and bottom-up parsing of context-free languages. Early's context-free parser. Precedence, LL(k), and LR(k) grammars. SLR(k), LALR(k), L(m)R(k) and LR(k) parsing techniques. Transduction grammars. Problems of embedding parsers into compilers. Error-recovery techniques. Prerequisite: CMPUT 315.

CMPUT 526 Advanced Programming Languages
★3 (first term, 3-0-0). The methodology, theoretical foundations, run-time structure and implementation of non-procedural programming paradigms and languages, functional object-based and logic-based programming paradigms. Prerequisite: CMPUT 315 or 379.

CMPUT 530 Advanced Compiler Design
★3 (first term, 3-0-0). Automated compiler construction, machine independent optimization, code generation, p-code, virtual machines, architectures, instruction sets and generation of code, parallel machines. Prerequisite: CMPUT 315.

CMPUT 535 Parallel and Multiprocessor Architectures
★3 (second term, 3-0-3). Advanced multiprocessor architecture projects course, emphasizing parallel and non-von Neumann architectures, storage hierarchies, pipeline and vector processors, parallel algorithms, interconnection structures, control mechanisms. Prerequisite: CMPUT 334 and 379.

CMPUT 551 Artificial Intelligence I: Reasoning
★3 (first term, 3-0-0). Review and analysis of general problems solving methods; advanced theorem proving methods, planning, skill aquisition, and knowledge representation and organization. Prerequisite: CMPUT 350.

CMPUT 552 Artificial Intelligence II: Semantic Information Processing
★3 (second term, 3-0-0). Knowledge representation and organization, inference structure, scene understanding, recent work on learning and concept formation, natural language syntax and semantics, Montague grammar, generalized phrase structure grammar, CF and deterministic parsing, milestone systems, pragmatics, role of inference, casual connections, goals, and plans in language understanding and conversation planning. Prerequisite: CMPUT 551.

CMPUT 566 Algebraic and Symbolic Computation
★3 (second term, 3-0-0). Symbolic and algebraic languages, representation and simplification of expressions. Transformation of representation: Chinese remainder, Hensel constructs, Padé fractions. Fast arithmetic. Greatest common division and factorization. Algebraic algorithms. Prerequisite: CMPUT 304. Corequisite: MATH 423 or 425.

CMPUT 572 Computability and Complexity Theory
★3 (second term, 3-0-0). Primitive recursive functions, recursive functions, unsolvability, reducibility, recursively enumerable sets. Predictably computable functions. Axiomatic complexity theory. Complexity classes and hierarchies. Simulation between computing models. Complexity of feasible computations. Prerequisite: CMPUT 374.

CMPUT 592 Advanced Topics in Data Management
★3 (second term, 3-0-0). Basic components of the relational model: structure, constraints and operations. Particular emphasis on constraints and operations. Topics emphasized: schema analysis and query optimization. Prerequisite: CMPUT 391.

CMPUT 593 Distributed Database Systems
★3 (first term, 3-0-3). Architecture of distributed database systems; management of distributed database systems; technical issues (design, query processing, concurrency control, etc.); overview of existing systems. Prerequisite: CMPUT 313 and 391.

CMPUT 601 Seminar
★3 (first term, 0-2s-0). Required of all graduate students.

CMPUT 602 Seminar
★3 (second term, 0-2s-0). Required of all graduate students.

CMPUT 618 Advanced Topics in Numerical Analysis
★3 (first term, 3-0-0).

CMPUT 619 Topics in Computing Science
★3 (second term, 3-0-0).

CMPUT 651 Topics in Computing Science
★3 (first term, 3-0-0).

CMPUT 652 Topics in Computing Science
★3 (second term, 3-0-0).

CMPUT 653 Topics in Computing Science
★3 (first term, 3-0-0).

CMPUT 654 Topics in Computing Science
★3 (second term, 3-0-0).

CMPUT 660 Computer Networks and Systems Design/Evaluation
★3 (first term, 3-0-0).

CMPUT 661 Seminar on Software Engineering
★3 (second term, 3-0-0).

CMPUT 662 Seminar in Computational Complexity
★3 (second term, 3-0-0).

CMPUT 663 Seminar in Automata and Computability
★3 (first term, 3-0-0).

CMPUT 664 Seminar in Knowledge-Based Systems
★3 (second term, 3-0-0).

CMPUT 665 Seminar in Artificial Intelligence
★3 (second term, 3-0-0).

CMPUT 666 Seminar in Adaptive Systems
★3 (first term, 3-0-0).

CMPUT 670 Coding and Storage in Information Retrieval
★3 (first term, 3-0-0).

CMPUT 671 Classification Problems in Information Retrieval
★3 (second term, 3-0-0).

204.20 Dentistry

Faculty of Dentistry
3032 Dentistry-Pharmacy Centre
University of Alberta
Edmonton, Alberta T6G 2N8

204.20.1 General Information

The Faculty of Dentistry has research laboratories and instructional facilities for a limited number of graduate students proceeding to the degrees of Master of Science and Doctor of Philosophy.

The research interests of the staff include: Anatomy: Human growth and development, embryonic induction of dental tissues and organs, evolution of dentitions; Biochemistry: Structure crosslinking of collagen, connective tissue research and calcification; Oral Pathology: Immunology and oral tumors, pulp capping agents; Physiology: Neuro-muscular function; Public Health and Community Dentistry: Health care, delivery systems, administration of public health programs; Clinical Dentistry: Studies in diagnosis, treatment and clinical trials; Biomaterials: Fluoride, physical properties of dentin, evaluations of dental materials.

It is possible to undertake a DDS and MSc (Oral Biology) combined program.

More detailed information can be obtained from the Director, Division of Graduate Studies and Research, Faculty of Dentistry.

Entrance Requirements:

The Faculty of Dentistry's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2). Students applying for admission to the MSc Clinical Sciences (Orthodontics) program require a minimum GPA of 7 or its equivalent. The normal closing date for receipt of applications to the MSc Clinical Sciences (Orthodontics) program is October 15.

Graduates in dentistry may undertake graduate programs in either oral biology or clinical science. Students with a BSc degree in biological or physical science are eligible for graduate study; however, in order to be accepted into the PhD program applicants must normally hold the equivalent of a four-year (Honors) BSc.

Financial Assistance:

Funding from fellowships and assistantships are available from external agencies on a competitive basis. Information can be obtained from the Director, Division of Graduate Studies and Research (Faculty of Dentistry).

204.20.2 The Degree of MSc

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student; however, the MSc program normally consists of course work equivalent to six credits and a thesis on an approved topic.

No additional language requirement other than English is required for the degree.

The minimum period of residence is one academic year of full-time attendance at the University of Alberta for candidates in a MSc program. Students enrolled in a MSc Clinical Sciences (Orthodontics) program also are required to complete a two-year clinical program leading to specialist certification.

Length of Program:

The time required to complete the MSc will vary according to the previous training of the individual candidate; however, a minimum of one calendar year is normally required for candidates with a first degree in dentistry and two calendar years for candidates with a first degree in another discipline.

204.20.3 The Degree of PhD

Program Requirements:

The PhD program normally consists of course work equivalent to a minimum of 12 units of course weight and the preparation and defence of a thesis on an approved topic.

No additional language requirement other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; normally a minimum of three calendar years of study and research is required.

204.20.4 Graduate Courses

THES 900 Thesis
THES 999 Thesis

DENT 500 Oral Biology I
★3 (first term, 3-0-0). Functional anatomy of head and neck. Development, structure, function and biochemistry of connective tissues associated with the jaws. (For graduate students in Orthodontics.)

DENT 501 Oral Biology II
★3 (second term, 3-0-0). A continuation of Oral Biology I. Growth and development of skull. Anthropology. Selected topics in physiology.

DENT 502 Oral Biology (Applied Anatomy)
★3 (second term, 3-0-0). Consideration of developmental and gross anatomy related to the appreciation and practice of dentistry.

DENT 503 Advanced Oral Pathology
★3 (first term, 3-0-0). A review of diseases that affect the oral tissues and an exploration of recently acquired knowledge pertaining to them.

DENT 504 Oral Medicine
★3 (second term, 3-0-0). A study of the mechanisms of oral disease as a basis for rationale of treatment.

DENT 505 Recent Advances in Oral Medicine
★1 (first term, 1-0-0). Oral pathology is reviewed in a series of 14 lectures on the current status of oral medicine. Emphasis is on the application of new knowledge of the diagnosis and management of dental and paradental disease processes in adolescents.

DENT 506 Dental Biochemistry and Physiology
★2 (second term, 2-0-0).

DENT 520 Orthodontic Pre-clinical Lectures
★7 (2-0-0;5-0-0). The pre-clinical lecture series is designed to give the student entry-level skills for orthodontic case management. The second term is the beginning of a 40-week program designed to enhance diagnostic skills, treatment planning objectives and mechanics.

DENT 521 Orthodontic Pre-clinical Lectures
★3 (5-0-0). Intersession program of 10 weeks. A continuation of DENT 520.

DENT 522 Orthodontic Seminar
★4 (first term, 0-4s-0). Designed to provide knowledge base for ortho records and synthesize that knowledge base into treatment analysis.

DENT 523 Orthodontic Seminar
★4 (second term, 0-4s-0). A continuation of DENT 522. Orthodontic theory and practice including etiology and diagnosis of malocclusion.

DENT 524 Orthodontic Seminar
★3 (0-4s-0). Intersession program of 10 weeks. A continuation of DENT 523. Includes advanced treatment planning and different treatment philosophies.

DENT 525 Orthodontic Technique
★1 (first term, 1-0-0). Theory and biomechanical principles involved in orthodontic appliances are presented.

DENT 526 Cephalometrics Seminars
★3 (first term, 0-3s-0). Theory of cephalometrics and the various angular, linear and proportional measurements utilized to assist treatment planning are presented.

DENT 527 Surgical/Functional Appliances
★1 (second term, 1-0-0). Lectures alternate between surgical/ortho and functional appliances. Co-ordinate with the oral surgery division.

DENT 528 Surgical/Functional Appliances
★1 (1-0-0). Intersession program of 10 weeks. A continuation of DENT 527 which presents a more detailed knowledge base to allow comprehensive treatment planning.

DENT 529 Adult Orthodontics
★1 (1-0-0). Intersession program of 10 weeks. Preclinical lecture/seminar series to introduce the graduate student to adult orthodontics.

DENT 530 Orthodontic Clinic
★9 (0-3c-0; 0-15c-0). The clinical orthodontic experience to compliment DENT 520. The student commences treatment on 2-4 patients the first term with an additional 10-16 new patient starts in the second term.

DENT 531 Orthodontic Clinic
★5 (0-15c-0). Intersession program of 10 weeks. A continuation of DENT 530 during which active patients are transferred to junior students.

DENT 532 Growth and Development
★2 (second term, 2-0-0). A detailed review of the postnatal growth and development of human craniofacial structures. Longitudinal and cross sectional growth data are presented.

DENT 533 Research Methodology
★1 (first term, 1-0-0). Review of scientific methodology and direction of students in technic of evaluating dental literature. A research proposal or literature review is required as part of this course.

DENT 535 Orthodontic Technique Laboratory
★4.5 (first term, 0-0-9). Lab sessions allow the students to apply skills necessary to manipulate ortho material in addition to fabricating appliances required to treat simulated ortho clinical cases.

DENT 536 Cephalometrics Lab
★1.5 (first term, 0-0-3). A lab or technique course where the student applies the knowledge of DENT 526. Computerized cephalometrics and growth predictions based on cross sectional data is available to the students.

DENT 537 Surgical/Functional Appliances
★1.5 (second term, 0-3c-0). Clinical course to complement DENT 527. Assigned cases are treatment-planned, and appropriate appliance therapy is initiated.

DENT 538 Surgical/Functional Appliances
★1 (0-3c-0). Intersession program of 10 weeks. Clinical compliment to DENT 537. Transfer cases from senior to junior students. Alternate clinics.

DENT 539 Adult Orthodontics
★1 (0-3c-0). Intersession program of 10 weeks. Clinical component associated with DENT 529. Students will assist with, and later assume treatment responsibility during this transfer quarter.

DENT 540 Advanced Pedodontics
★11 (1-9c-0).

DENT 550 Statistics and Epidemiology
★2 (15-0-0). This course will develop principles of scientific methodology of problem solving, statistical terms and the qualitative and quantitative evaluation of oral disease. (Course offered in alternate years).

DENT 561 Orthodontic Seminar
★2 (second term, 0-2s-0). Seminars in the diagnosis and treatment of temporomandibular joint problems. Includes a comprehensive literature review. Emphasis placed on orthodontic considerations in the prevention and management of mandibular dysfunction.

DENT 570 Dental Materials
★2 (first term, 2-0-0). The course will cover the structure, properties and testing methods relative to dental materials. Specific materials and the clinical and biological significance of their properties will be discussed.

DENT 571 Orthodontic Clinical Research
★1.5 (second term, 0-3c-0). Participation in the clinical research project based at the University of Alberta Hospital.

DENT 601 Seminars in Oral Biology
★2 (0-1s-0). Seminars will include the major areas of research in the Department of Oral Biology. Students will present one seminar.

DENT 607 Conference Seminars in Oral Biology I
★3 (first term, 0-3s-0). This course will include seminars and conferences on selected aspects of oral biology. Continuous evaluation of student preparation and participation throughout the course will be used for assessment. This is an optional course open to students outside the Faculty of Dentistry by consent of the Chair, Department of Oral Biology.

DENT 608 Conference Seminars in Oral Biology II
★3 (second term, 0-3s-0). This is a continuation of DENT 607.

DENT 609 Connective Tissue Research
★2 (0-1s-0). This course will critically survey recent research on connective tissues and will aim to provide students practice in communicating research data.

DENT 620 Orthodontic Pre-clinical Lectures
★5 (first term, 5-0-0). This course contains the third and last block of the above 40-week program.

DENT 621 Orthodontic Seminar
★4 (first term, 0-4s-0). Continuation of DENT 524 where current pertinent literature review and post retention cases are discussed.

DENT 622 Adult Orthodontics
★2 (1-0-0). Continuation of DENT 529. Includes information on the treatment objectives and limitations associated with non-growing patients.

DENT 623 Adult Orthodontics
★1 (1-0-0). Intersession program of 10 weeks. Conclusion of the adult ortho theory seminar. Current pertinent literature is reviewed and critiqued.

DENT 624 Surgical/Functional Appliances
★2 (1-0-0). Continuation of DENT 528. Includes literature reviews as well as case analysis.

DENT 630 Orthodontic Clinic
★15 (0-15c-0). Continuation of DENT 531. Students have increased case loads to approximately 55 active patients which present a cross section of treatment stages.

DENT 631 Orthodontic Clinic
★5 (0-15c-0). Intersession program of 10 weeks. Continuation of DENT 630. The senior students gradually transfer caseloads to junior students.

DENT 632 Adult Orthodontics
★3 (0-3c-0). Continuation of DENT 539. Multi-discipline cases are given treatment priority. Caseload is 6-8 active patients.

DENT 633 Adult Orthodontics
★1 (0-3c-0). Intersession program of 10 weeks. Continuation of DENT 623. Transfer cases from senior to junior students.

DENT 634 Surgical/Functional Appliances
★3 (0-3c-0). Continuation of DENT 538. Each students has between 3-4 active cases in each sub-clinic.

DENT 635 Surgical/Functional Appliances
★1 (0-3c-0). Intersession program of 10 weeks. Cases transferred from senior to junior students.

DENT 640 Advanced Pedodontics
★11 (1-0-9).

f 699 Research Project
240 hours). Credit equivalent to a two-term course. work undertaken can include critical evaluation of a nated area of dentistry which may or may not de original research. The work completed will be ented in the form of a report to the dental depart- offering the program. No more than one project e undertaken by any student in a program leading raduate degree in oral biology or dentistry. Prereq- : Consent of department offering the graduate se.

f 800 Special Registration
either term, unassigned). Dentistry undergraduate nts registered in universities other than the Univer- f Alberta and who have been admitted to the U of A lty of Dentistry as a "Visiting Student" in accord- with the Faculty guidelines may be required to ter in this course for the purpose of entitlement to University library and registration in the Alberta al Association Education Register.

4.21 Drama

rtment of Drama
6 Fine Arts Building
ersity of Alberta
onton, Alberta T6G 2C9

4.21.1 General Information

The Department of Drama offers graduate programs ing to the Master of Fine Arts degree in design, ting or playwriting and to the Master of Arts degree ramatic literature, theatre history, dramatic theory criticism or dramaturgy.

The Department provides one fully-equipped studio tre and three experimental theatre facilities as dramatic laboratories available to graduate students. Two shops each for costume design and set design e graduate designers. The theatre collection in the ry is extensive. It offers particular opportunities for in expressionism; German, French, and Spanish na; and includes a substantial collection of research erials on Canadian theatre.

The aim of the MFA programs is to train candidates level of competency sufficient to enter the profession. The MA programs, essentially research oriented, offer training in dramaturgy as one of the means by h candidates may be actively involved in the creative uits of the Department.

Inquiries should be addressed to the Graduate rdinator, Department of Drama.

rance Requirements:

The Department's minimum admission requirements an undergraduate degree with an average of 6.5 in last two years of undergraduate work (or graduate k) at the University of Alberta, or an equivalent ification from a recognized institution, and a TOEFL re of 550 where applicable (see §202.2.2).

ancial Assistance:

Graduate assistantships are available to qualified dents.

4.21.2 The Degree of MFA

trance Requirements:

The undergraduate degree (see "General Information: rance Requirements", above) must normally be a r-year degree in theatre studies in order for the licant to be considered eligible for the MFA program. ddition, numerous practical theatre credits are required he applicant's intended area of specialization along three letters of recommendation on the applicant's fessional promise.

Between the academic and the artistic requirements idates must: demonstrate a fundamental knowledge the components of theatre art — acting, design, cting, and playwriting; have extensive training and erience in the area of their intended specialization; possess sufficient preparation in dramatic literature, atre history, and theatre aesthetics.

Interested applicants should write for further application ails as they relate to their intended area of specialization.

ogram Requirements:

Required courses depend on the area of specialization the undergraduate background of the student; however, MFA program normally consists of 33 units of course ight. In addition, an acceptable creative thesis project ist be presented in performance.

No language other than English is required for the gree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

Candidates are normally required to complete two years of study. In certain circumstances advanced standing may be accorded in the candidacy program for previous theatre work accredited by the Department.

204.21.3 The Degree of MA

Entrance Requirements:

A candidate must hold a bachelor's degree (or its equivalent) from a recognized institution. To be accepted, the candidate must demonstrate to the Department familiarity with the artistic and practical components of theatre art, as well as sufficient preparation in theatre history and criticism.

Program Requirements:

The MA program normally consists of some practical training in research skills and 24 units of course weight at the graduate level for those candidates who can show evidence through a diagnostic examination of an adequate historical and critical background. Candidates must present an acceptable thesis and defend it orally.

Candidates must demonstrate a reading knowledge of one approved language other than English.

The minimum period of residence is one academic year of full-time attendance at the University of Alberta.

Length of Program:

The program normally requires three academic terms of course work. Those students with insufficient historical and critical background may be required to take an additional term of course work.

204.21.4 Graduate Courses

THES 900 Thesis
THES 999 Thesis

DRAMA 601 Methods and Tools of Research
★3 (first term, 3-0-0).

DRAMA 604 Research in Theatre History
★3, or ★6 (either term, 3-0-0). Research in aspects of physical theatre and production.

DRAMA 605 Special Projects in Theatre
★3 (either term, 1-0-4). Prerequisite: Consent of department

DRAMA 607 Dramaturgy I
★3 (either term, 3-0-0).

DRAMA 608 Research Seminar
★6 (0-3s-0). Research in selected topics.

DRAMA 610 Applied Criticism
★3 (either term, 3-0-0). Critical analysis of theatre practice.

DRAMA 616 Research in Canadian Drama
★6 (3-0-0).

DRAMA 618 Advanced Research Seminar
★6 (0-3s-0). Advanced research in selected topics. Prerequisite: DRAMA 608 or consent of department.

DRAMA 660 Playwriting Projects
★6 (0-0-3). Prerequisite: Consent of department.

DRAMA 661 Advanced Playwriting Projects
★6 (0-0-3).

DRAMA 665 Special Projects in Dramatic Writing
★3 (either term, 1-0-4). Prerequisite: Consent of department

DRAMA 670 Advanced Theatre Design I
★6 (0-6L-0). Note: Restricted to MFA (Drama) students.

DRAMA 671 Advanced Theatre Design II
★6 (0-6L-0). Note: Restricted to MFA (Drama) students.

DRAMA 672 Design for Directors
★3 (0-4L-0). A single-term course offered over the full session. Corequisites: DRAMA 660, 661, 680 or 681. Note: Restricted to MA (Drama) students (with consent of department) and MFA (Drama) students.

DRAMA 673 Advanced Lighting Design
★3 (0-0-6). Note: A single-term course offered over the full session. Restricted to MFA (Drama) students.

DRAMA 674 Advanced Costume Techniques
★3 (0-0-6). Note: A single-term course offered over the full session. Restricted to MFA (Drama) students.

DRAMA 680 Styles of Directing
★6 (0-3s-6). Note: Restricted to MFA (Drama) students.

DRAMA 681 Advanced Projects in Directing
★6 (0-3s-6). Note: Restricted to MFA (Drama) students.

DRAMA 690 Topics in Applied Theatre Aesthetics
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

204.22 Economics

Department of Economics
8-14 Tory Building
University of Alberta
Edmonton, Alberta T6G 2H4

204.22.1 General Information

The Department of Economics offers programs leading to the Master of Arts and Doctor of Philosophy degrees. The MA degree may be taken by either the thesis route or the non-thesis route.

Entrance Requirements

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2). A GPA of 7.4 in MA work is required for admission to the PhD program.

Applicants whose most recent degree is from a non-Canadian university are required to write the Graduate Record Examinations (verbal, quantitative, and analytical sections) administered by the Educational Testing Service (Princeton, NJ). The examinations should be written early enough for scores to be available at the same time as the applicant's other supporting documents. No minimum cutoff score is specified, because GRE results are used only in conjunction with other indicators of potential academic success. The Graduate Coordinator will waive this requirement only in exceptional circumstances.

Students entering a graduate program in economics are required to have or to make up credit in a basic course in calculus and one in statistics. (Note: These courses are required in addition to the candidate's normal graduate program.)

Inquiries regarding details of programs offered within the Department should be directed to the Graduate Coordinator.

Financial Assistance:

The Department automatically considers all applicants for graduate teaching and research assistantships. To ensure consideration the candidate's application and supporting documents must be received by the Department before March 1. Applications received after that date will be considered for assistantships only if funds are still available. Details of scholarships and other sources of financial assistance are included in the Awards section of this Calendar.

204.22.2 The Degree of MA

Program Requirements:

The MA program normally consists of 21 units of course weight and a project equivalent to three units of course weight or 18 units of course weight and a thesis.

Detailed program requirements, including standards of performance, may be obtained by consulting the Department.

Except in special cases, no language other than English is required for the degree of MA.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of eight months is normally required.

204.22.3 The Degree of PhD

Program Requirements:

The PhD program consists of at least 27 units of course weight and a thesis.

Detailed program requirements, including standards of performance, may be obtained by consulting the Department.

Except in special cases, no language other than English is required for the PhD.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the individual candidate; however, a minimum of two years is normally required.

204.22.4 Graduate Courses

THES 900 Thesis
THES 999 Thesis
ECON 900 ★3 Directed Research Project

ECON 501 History of Economic Thought
★3 (either term, 3-0-0). A survey of economic thought from Adam Smith to modern times, with particular attention to the theories of economic development and growth.

ECON 503 Microeconomic Theory I
★3 (either term, 3-0-0). Producer and consumer behaviour; partial equilibrium models of perfectly and imperfectly competitive markets; Walrasian general equilibrium; welfare economics. Prerequisite: ECON 386/387, 481/482.

ECON 505 Microeconomic Theory II
★3 (either term, 3-0-0). Choice under uncertainty; contingent claims and models of general equilibrium under uncertainty; markets with information asymmetries; non-cooperative game theory, games of incomplete information, repeated games, and bargaining theory. Prerequisite: ECON 503.

ECON 507 Econometrics I
★3 (first term, 3-0-0).Topics in statistical theory; distribution theory including transformation of random variables, the multivariate normal and associated quadratic forms, maximum likelihood estimation and associated asymptotic tests. Estimation and inference in the general linear model. Prerequisite: ECON 407/408 or equivalent.

ECON 508 Econometrics II
★3 (second term, 3-0-0). Single equation methods and problems. Estimation and inference in the simultaneous equations model. Prerequisite: ECON 507 or equivalent.

ECON 512 Economic Development I
★3 (either term, 3-0-0). The techniques of development planning; qualitative and quantitative problems associated with the drafting and implementation of plans and programs; assessment of internal and external resources available for development and problems of measurement and mobilization of resources.

ECON 513 Economic Development II
★3 (either term, 3-0-0). Economic policy alternatives in a context of growth and development; problems of inflation, balance of payments, disequilibrium, concentration of growth effects; the role of international aid and other external measures.

ECON 514 Economic Development of North America
★3 (either term, 3-0-0). A selective analysis of historical factors involved in the economic growth and development of North America. Particular attention is given to Canadian experience, and to the use of economic theory and statistical techniques in historical research.

ECON 516 European Economic Development
★3 (either term, 3-0-0). The application of economic theory and research methodology to selected topics in European economic development.

ECON 521 International Economics I
★3 (either term, 3-0-0). Prerequisite: ECON 481/482, ECON 421/422 recommended.

ECON 522 International Economics II
★3 (either term, 3-0-0).

ECON 523 The International Economy
★3 (either term, 3-0-0). Balance of payments, foreign exchange markets, foreign investment, trade and commercial policy, international economic institutions. Note: Designed for graduate students whose specialization is not Economics.

ECON 531 Labor Economics I
★3 (either term, 3-0-0). Factors influencing the supply of, and demand for, labor services and the process of relative wage determination in the long and short run. Determination of money wage levels, aggregate labor-force participation, and the level and structure of aggregate employment and unemployment.

ECON 532 Labor Economics II
★3 (either term, 3-0-0). Topics in manpower and human resource development economics. The role of human resources in economic growth, human resources viewed as capital, problems and policies in planning, forecasting, and utilizing manpower contexts, methods of evaluating specific manpower programs and projects; and relationships between poverty and manpower utilization.

ECON 540 Monetary Economics I
★3 (either term, 3-0-0). Prerequisite: ECON 481/482.

ECON 541 Monetary Economics II
★3 (either term, 3-0-0). Activities of financial intermediaries; evaluation of the effectiveness and the impact of monetary policy in both closed and open systems.

ECON 550 Public Expenditure
★3 (either term, 3-0-0). The theory of the role of the public sector in a market economy; market failures, income redistribution, public choice, and fiscal federalism.

ECON 552 Urban Economics
★3 (either term, 3-0-0). Prerequisite: ECON 481/482.

ECON 553 Economics of Taxation
★3 (either term, 3-0-0). Effects of taxes on allocation, distribution and stabilization objectives. Evaluation of major taxes with particular attention paid to efficiency and incidence considerations.

ECON 555 Applied Welfare Economics
★3 (either term, 3-0-0). Theoretical welfare economics, aspects of cost-benefit analysis, and policy evaluation.

ECON 558 Finance in the Public Sector
★3 (either term, 3-0-0). Note: Restricted to students in the MPM Program.

ECON 559 Health Care Economics
★3 (either term, 3-0-0). Problems of resource allocation in the health care sector with special reference to the Canadian economy.

ECON 561 Transportation Economics
★3 (either term, 3-0-0). Economic analysis of alternative transportation systems.

ECON 564 Regional Economics II
★3 (either term, 3-0-0). The role of inter-regional mobility and substitutability of factors of production in regional growth; regional production functions and the differential impact of technical change; studies in inter-regional trade and comparative advantage in production and marketing.

ECON 565 Resource Economics I: The Economics of Conservation and Resource Scarcity
★3 (either term, 3-0-0). Economic analysis of quantitative aspects of natural resource use and development; the economics of conservation; the role of resources in growth; resource scarcity; quantitative tools (benefit-cost and input-output analysis) in resources management; selected Canadian resource management; selected Canadian resource issues.

INT D 566 Resource Economics II: Economics of the Environment
★3 (either term, 3-0-0). Economic theory and policy relating to resource and environmental quality problems; welfare and public policy issues in resource decision-making; the relationships between economic growth and environmental preservation; externalities and public goods; economics of pollution; recreation economics; selected Canadian environmental issues. [Economics].

ECON 567 Canadian Energy Resources
★3 (either term, 3-0-0). An economic evaluation of the role of energy resources in the Canadian economy.

ECON 570 Industrial Economics I
★3 (either term, 3-0-0). Contemporary industrial structure, conduct and performance - Canadian and foreign; related public policies.

ECON 571 Industrial Economics II
★3 (either term, 3-0-0). Government enterprise, public regulation of private enterprise, and specific public policies concerning particular market elements, such as advertising, delivered pricing and patents.

ECON 581 Macroeconomic Theory I
★3 (either term, 3-0-0). An examination of the core topics in macroeconomic theory. These will generally include methods of modelling output, employment, prices, business cycles, and macroeconomic policy. Pre- or co-requisite: ECON 481/482 or equivalent.

ECON 582 Macroeconomic Theory II
★3 (either term, 3-0-0). This course extends the analysis of ECON 581 and introduces students to more advanced issues. Prerequisite: ECON 581 or equivalent.

ECON 586 Mathematical Economics
★3 (either term, 3-0-0). Applications and interpretations of tools used in economic analysis such as programming and game theory; inter-industry analysis, multi-sector growth models; mathematical approach to general equilibrium theory and other related areas. Emphasis on specific topics may vary from year to year. Prerequisite: ECON 386/387 or equivalent.

ECON 591 Comparative Economics
★3 (either term, 3-0-0). A survey of major contemporary systems of economic organization with emphasis on economic planning.

ECON 593 The Soviet Economy
★3 (either term, 3-0-0). A graduate survey of the theory of the Soviet economy; the Soviet enterprise and its behavior; Soviet planning and resource allocation; the problem of efficiency and pricing; Soviet national accounts, planning and overall economics performance; Soviet strategy of economic growth. International aspects of the Soviet economy. Soviet economic reform.

ECON 595 Computer Applications in Economics
★3 (either term, 3-0-0). An introduction to the relationship between economic analysis and modern high speed computers. Topics include computer techniques useful in economics, computerized statistical techniques, and examination of selected economic models of both a mathematical and stochastic nature.

ECON 599 Applied Econometrics
★3 (either term, 3-0-0). The role of economic theory in the process of specification and estimation of models. Interpretation and critical evaluation of applied work b means of selected topics in econometric theory. Prereq uisite: ECON 407/408 or equivalent, and ECON 481/48 or equivalent.

ECON 608 Topics in Econometrics
★3 (either term, 3-0-0).

ECON 612 Topics in Economic Development
★3 (either term, 3-0-0).

ECON 614 Topics in European and North American Economic Development
★3 (either term, 3-0-0).

ECON 620 Topics in International Economics
★3 (either term, 3-0-0).

ECON 630 Topics in Labor Economics
★3 (either term, 3-0-0).

ECON 640 Topics in Monetary Economics
★3 (either term, 3-0-0).

ECON 652 Topics in Public Economics
★3 (either term, 3-0-0). Topics available include: loca public finance, project evaluation, theory of public choice public enterprise pricing policies, health care econom ics, and fiscal systems.

ECON 664 Topics in Regional Economics
★3 (either term, 3-0-0).

ECON 672 Topics in Industrial Economics
★3 (either term, 3-0-0).

ECON 693 Topics in Comparative Economics
★3 (either term, 3-0-0).

ECON 699 Selected Research Topics in Economics
★3 (either term, 3-0-0).

204.23 Educational Administration

Department of Educational Administration
7-104 Education North
University of Alberta
Edmonton, Alberta T6G 2G5

204.23.1 General Information

The Department of Educational Administration offers programs of study and research leading to the degrees of MEd, EdD, and PhD, as well as a postgraduate diploma.

Research interests of the Department encompass both theoretical studies and field applications.

Prospective students should consult the Chair of the Department for further information on graduate programs. Applicants are also requested to inform the Chair of their tentative plans for attendance.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 600 where applicable (see §202.2.2). A GPA of 7.5 (or its equivalent) in master's degree work is required for admission to the doctoral program. An acceptable score on the Miller Analogies Test is required of all applicants. The operating guideline normally used is 50 for MEd and 55 for PhD studies.

Program Requirements:

Each student's program consists of required courses in educational administration and of electives available in the Department or in other departments in the University. Required courses provide the general theoretical framework for administration, while electives provide a degree of specialization related to research and/or future occupation. Further opportunities for specialization exist within a student's program; these may include supervised projects and such field experiences as can be arranged by staff to prepare the student for a variety of administrative positions in schools, school systems, colleges, universities and government, or as a teacher in colleges and universities.

Financial Assistance:

A number of assistantships in teaching and research are available for well-qualified candidates.

204.23.2 The Degree of MEd

Program Requirements:

The MEd degree may be taken by either the thesis-based route or the course-based (project) route. Each route offers opportunities for specializing in various aspects of educational administration. The number of required

urses depends on the area of specialization and the kground of the student; however, the MEd program mally consists of 16 three-weight course equivalents luding the thesis or project).

No language other than English is required for the gree. Taken by either route, the full-time MEd program uires two four-month terms of residence which normally accomplished by one Winter Session (eight months) of dy as a full-time student.

The requirements of a course-based MEd program units of course weight plus a project equivalent to six ts of course weight) may also be fulfilled through istration on a part-time basis only. Prospective ndidates must indicate when applying for admission that y wish to complete the program through part-time dy. The number of new admissions to the program ch year will be limited, and candidates must normally rt the program in either July or September. January missions are made in special cases. Candidates admitted the program must complete at least 24 units of course ight in the first two years. Students are expected to nain active in their programs, to maintain acceptable nding, and to complete programs within a four-year e limit. Programs completed through part-time studies considered by the Department and the Faculty of aduate Studies and Research to be equal in status to grams completed through fulfillment of a residence uirement.

ngth of Program:

The program may be completed in 14 months of ntinuous full-time study, extending from the beginning of e Summer Session to the termination of the next.

04.23.3 The Degree of EdD

This degree is offered in 1991/92 under special rangements. Please contact the Department for details.

rogram Requirements:

The EdD program normally consists of course work nd the preparation and defence of a thesis on an proved topic.

No language other than English is required for the gree. The minimum period of residence is two academic ars of full-time attendance at the University of Alberta.

ength of Program:

The time required to complete the EdD will vary cording to the previous education of the applicant and e nature of the research undertaken.

04.23.4 The Degree of PhD

The PhD program in educational administration mphasizes intensive development of conceptual, analytical, nd research skills as preparation for teaching and dministrative positions in various educational organizations. reas of specialization which may be developed within the amework of the general requirements include: (1) research nd project administration; (2) administrative behaviour nd supervision; (3) organizational studies; (4) adaptive nd planning functions; (5) general aspects of education olitical, social, legal and intercultural); (6) economics nd finance; (7) policy making; and (8) adult, continuing, nd post-secondary education. A program leading toward eneral educational administration is also acceptable.

Entrance Requirements:

The normal basic admission requirement is a suitable aster's degree, with excellent standing, from a recognized niversity. The Department also considers the applicant's eferences, career experiences, and scores on aptitude ests as factors that affect admissibility. Whenever feasible, hD applicants will be interviewed by a subcommittee of he admissions committee.

Program Requirements:

The PhD program normally consists of 42 units of ourse weight (some courses are required while others re selected in relation to an area of interest and pecialization) and a dissertation.

There is no language requirement for the degree of hD.

The minimum period of residence is two academic ears of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the individual candidate; however, a minimum of two years of full-time study and research is normally required.

204.23.5 Postgraduate Diploma Program

Entrance Requirements:

For admission into the postgraduate diploma program, an MEd degree or equivalent and experience in an administrative position is normally required. These requirements are in addition to the minimum admission requirements of the Department.

Program Requirements:

The program consists of 24 units of course weight in graduate-level courses in educational administration.

No language other than English is required for the postgraduate diploma.

There is no residence requirement.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research project undertaken; however, a minimum of one year is necessary if undertaken on a full-time study basis.

204.23.6 Graduate Courses

THES 900 Thesis
THES 999 Thesis
EDADM 900 ★6 Directed Research Project

EDADM 501 Evolving Concepts in Educational Administration
★3 (either term, 3-0-0).

EDADM 502 Administrative Processes in Education
★3 (either term, 3-0-0). Prerequisite: EDADM 501

EDADM 505 Selected Topics in Educational Administration I
★3 (either term, 3-0-0).

EDADM 506 Selected Topics in Educational Administration II
★3 (either term, 3-0-0).

EDADM 511 Research Design and Data Analysis I
★3 (either term, 3-0-1).

EDADM 512 Research Design and Data Analysis II
★3 (either term, 3-0-1). Prerequisite: EDADM 511

EDADM 513 Administration of Research and Development Projects I
★3 (either term, 3-0-0). Limited to Administrative Development MEd program or consent of department.

EDADM 514 Administration of Research and Development Projects II
★3 (either term, 3-0-0). Limited to Administrative Development MEd program or consent of Department.

EDADM 515 Research Projects I
★3 (either term, 3-0-2). Prerequisite: Consent of department.

EDADM 516 Research Projects II
★3 (either term, 3-0-2). Prerequisite: Consent of department.

EDADM 517 Developmental Projects I
★3 (either term, 3-0-0).

EDADM 518 Developmental Projects II
★3 (either term, 3-0-0).

EDADM 521 Supervision of Educational Personnel
★3 (either term, 3-0-0).

EDADM 522 Selected Topics in Educational Supervision
★3 (either term, 3-0-0).

EDADU 523 Administration of Further Education
★3 (either term, 3-0-0).

EDADM 527 Orientations to Administrator-Student Relationships
★3 (either term, 3-0-0).

EDADM 528 Administration of Postsecondary Student Personnel Services
★3 (either term, 3-0-0).

EDADM 531 Administration of Schools
★3 (either term, 3-0-0).

EDADM 532 Administration of School Jurisdictions
★3 (either term, 3-0-0).

EDADM 541 Planned Change in Educational Organizations
★3 (either term, 3-0-0).

EDADM 542 Adaptive Processes in Educational Organizations
★3 (either term, 3-0-0).

EDADM 545 Educational Planning
★3 (either term, 3-0-0).

EDADM 546 Educational Planning Processes
★3 (either term, 3-0-0).

EDADM 547 Administrative Applications of Computing
★3 (either term, 3-0-0).

EDADM 548 Management of Information Systems
★3 (either term, 3-0-0).

EDADM 551 Governance and Administration of Education in Canada
★3 (either term, 3-0-0).

EDADM 552 Topics in Administration of Education in Canada
★3 (either term, 3-0-0).

EDADM 553 Legal Aspects of Educational Administration
★3 (either term, 3-0-0).

EDADM 555 Administration of Education in Selected Countries
★3 (either term, 3-0-0).

EDADM 557 Administration of Education Across Cultures
★3 (either term, 3-0-0).

EDADM 565 Educational Finance
★3 (either term, 3-0-0).

EDADM 566 Operational Finance
★3 (either term, 3-0-0).

EDADM 571 The Organization of Postsecondary Education
★3 (either term, 3-0-0).

EDADM 572 Governance of Postsecondary Institutions
★3 (either term, 3-0-0). Prerequisite: EDADM 571 or consent of Department.

EDADM 591 Supervised Individual Study I
★3 (either term, 3-0-0).

EDADM 592 Supervised Individual Study II
★3 (either term, 3-0-0).

EDADM 593 Seminar and Practicum in Administrative Behavior I
★3 (either term, 3-0-1). Prerequisite: Consent of department.

EDADM 594 Seminar and Practicum in Administrative Behavior II
★3 (either term, 3-0-1). Prerequisite: Consent of department.

EDADM 595 The School Principalship: Seminars and Simulations
★3 (either term, 3-0-1). Applied activities and academic studies which enable the student to learn skills and knowledge pertinent to the responsibilities of the principal, by disiplined reflection on their performance in simulated administrative situations. Prerequisite: EDADM 501 and 502 or consent of department.

EDADM 605 Selected Topics in Educational Administration I
★3 (either term, 3-0-0).

EDADM 606 Problems in Educational Administration II
★3 (either term, 3-0-0).

EDADM 611 Research Methods I
★3 (either term, 3-0-0).

EDADM 612 Research Methods II
★3 (either term, 3-0-0).

EDADM 625 Administrative Behavior I
★3 (first term, 3-0-0).

EDADM 626 Administrative Behavior II
★3 (second term, 3-0-0).

EDADM 635 Organization Theory I
★3 (first term, 3-0-0).

EDADM 636 Organization Theory II
★3 (second term, 3-0-0).

EDADM 645 Policy Analysis in Education I
★3 (either term, 3-0-0).

EDADM 646 Policy Analysis in Education II
★3 (either term, 3-0-0).

EDADM 655 Politics of Education I
★3 (first term, 3-0-0).

EDADM 656 Politics of Education II
★3 (second term, 3-0-0).

EDADM 665 Economic Environment of Education I
★3 (first term, 3-0-0).

EDADM 666 Economic Environment of Education II
★3 (second term, 3-0-0).

EDADM 671 Issues in Administration of Postsecondary Education I
★3 (first term, 3-0-0). Prerequisite: Consent of department.

EDADM 672 Issues in Administration of Postsecondary Education II
★3 (second term, 3-0-0). Prerequisite: Consent of department.

EDADM 691 Supervised Individual Study I
★3 (either term, 3-0-0).

EDADM 692 Supervised Individual Study II
★3 (either term, 3-0-0).

204.24 Educational Foundations

Department of Educational Foundations
5-109 Education North
University of Alberta
Edmonton, Alberta T6G 2G5

204.24.1 General Information

The Department of Educational Foundations offers programs leading to the degrees of Master of Education and Doctor of Philosophy.

At the master's degree level the Department offers programs in the following fields: history of education, philosophy of education, sociology of education, international/intercultural education, and anthropology and education. At the doctoral degree level the Department offers programs in history of education, philosophy of education, sociology of education, and international/intercultural education.

The course work for graduate programs normally includes related courses offered by the Department of Educational Foundations and by other departments of the Faculty of Arts and the Faculty of Education.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 7.0 in the last two years of undergraduate work at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2).

Financial Assistance:

A limited number of graduate assistantships are available to well-qualified candidates.

Inquiries concerning admission, programs and assistantships should be directed to the Chair of the Department.

204.24.2 The Degree of MEd

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student; however, the MEd program normally consists of 30 units of course weight and a thesis or 36 units of course weight and a project equivalent to six units of course weight.

There is no language requirement for the degree of MEd.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary according to the individual candidate; however, 12 months full-time attendance is the minimal period normally required.

204.24.3 The Degree of PhD

Program Requirements:

The PhD program normally consists of two or three comprehensive examinations, depending on the area of study, and the preparation and defence of a dissertation on an approved topic.

No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of 20 months full-time attendance is normally required.

204.24.4 Graduate Courses

THES 900 Thesis
THES 999 Thesis
EDFDN 900 ★6 Directed Research Project

EDFDN 500 Education Seminar
★0 Non-credit; hours to be arranged. Prerequisite: Consent of Department.

EDFDN 501 Conference Course on Selected Topics
★3 (either term, 3-0-0). Prerequisite: Consent of department.

EDFDN 502 Conference Course on Selected Topics
★6 (3-0-0). Prerequisite: Consent of department.

EDFDN 510 Education from an Anthropological Perspective
★3 (either term, 3-0-0).

EDFDN 512 Anthropological Theory and Education
★6 (3-0-0).

EDFDN 521 Studies of Educational Change in Developed Nations
★3 (either term, 3-0-0).

EDFDN 522 Functions of Education in the Development of Emerging Nations
★3 (either term, 3-0-0).

EDFDN 523 Development Theory and Education
★3 (either term, 3-0-0). An examination of the meaning of the concept "Societal Development". A review of theories of development put forward by selected writers, and an analysis of the role of education in the development process, with particular attention to the Third World. Prerequisite: Consent of department.

EDFDN 524 Strategies of Educational Reform and National Development in Socialist and Non-Socialist Third World Societies
★3 (either term, 3-0-0). A critical examination of strategies of educational reform and development in selected socialist and non-socialist societies in the Third World. Prerequisite: EDFDN 523 or consent of the instructor.

EDFDN 530 History of Education in Canada
★3 (either term, 3-0-0). A survey of studies in the history of formal and informal educational institutions in Canada, and their interrelationship with Canadian society.

EDFDN 532 Topics in the History of Education in Western Canada
★3 (either term, 3-0-0).

EDFDN 540 History of Modern Education
★3 (either term, 3-0-0).

EDFDN 541 History of Higher Education
★3 (either term, 3-0-0).

EDFDN 543 Research Methods and Theory in the History of Education
★3 (either term, 3-0-0).

EDFDN 544 History of Education as a Field of Study: Its Emergence and Development
★3 (either term, 3-0-0).

EDFDN 545 Studies in the History of Schooling and Curriculum
★3 (either term, 3-0-0).

EDFDN 546 Childhood and Childrearing in Western Culture: An Historical Perspective
★3 (either term, 3-0-0).

EDFDN 547 History of English Education Since the Industrial Revolution
★3 (either term, 3-0-0).

EDFDN 550 Philosophical Analysis and Education
★3 (either term, 3-0-0).

EDFDN 551 Philosophy of Education I
★3 (either term, 3-0-0).

EDFDN 553 Philosophical Analysis of Teaching
★3 (either term, 3-0-0).

EDFDN 554 Philosophical Foundations of Educational Research
★3 (either term, 3-0-0).

EDFDN 555 Moral Education: A Philosophical Perspective
★3 (either term, 3-0-0). An introduction to current philosophical research on moral education and the implications of that research for contemporary schooling.

EDFDN 556 The Educational Theory of a Selected Philosopher
★3 (either term, 3-0-0).

EDFDN 557 Learning and the Philosophy of Knowledge
★3 (either term, 3-0-0).

EDFDN 558 Religious Education: A Philosophical Perspective
★3 (either term, 3-0-0). Rival philosophical views on the aims and limits of religious education will be examined, with particular emphasis on the implications of such views for pedagogy and curricula in denominational and nondenominational schools.

EDFDN 559 Schooling and Social Justice
★3 (either term, 3-0-0). An examination of how educational practices may be assessed, and where necessary, changed, according to the standards of justice and respect for human rights.

EDFDN 560 Education from a Sociological Perspective
★3 (either term, 3-0-0).

EDFDN 561 Community Education: A Sociological Perspective
★3 (either term, 3-0-0). The organization and processes of community education at the local, provincial and national levels of social interaction as seen from the theory and research of contemporary sociology.

EDFDN 562 Development and Theory of Sociology of Education
★3 (either term, 3-0-0).

EDFDN 563 Research Methods in Sociology of Education
★3 (either term, 3-0-0).

EDFDN 564 Education and Social Change
★3 (either term, 3-0-0).

EDFDN 565 Sociology of Higher Education
★3 (either term, 3-0-0).

EDFDN 574 Current Developments in Native Education: A Social Science Perspective
★3 (either term, 3-0-0). A discussion of theoretical and methodological issues relating to Native education in Alberta together with an examination of relevant data-based studies. Prerequisite: EDFDN 432 or EDFDN 474 or consent of the instructor.

EDADU 577 Foundations of Adult and Higher Education
★3 (either term, 3-0-0). This survey course examines the various interpretations and paradigms of adult and higher education. Ways of studying adult and higher education are presented using concepts, analysis, theories, and methodologies from the various foundational disciplines.

EDADU 579 Sociology of Adult and Continuing Education
★3 (either term, 3-0-0). This course studies from a sociological perspective the role and function of adult education in industrial societies and in the Third World, the relationships between adult education, social stratification, and the workplace, and adult education as a profession. Prerequisite: EDADU 577 or consent of department.

EDFDN 601 Conference Course on Selected Topics
★3 (either term, 3-0-0).

EDFDN 602 Conference Course on Selected Topics
★6 (3-0-0).

EDFDN 611 Research Methods in Anthropology and Education
★6 (0-3s-0).

EDFDN 620 International/Intercultural Education: Disciplinary Geographic/Cultural Focus
★6 (0-3s-0).

EDFDN 621 International/Intercultural Education: Methods and Substantive Research Paper
★6 (0-3s-0).

EDFDN 640 History of Education
★6 (0-3s-0).

EDFDN 641 History of Education: Historiography
★6 (0-3s-0).

EDFDN 642 History of Education: Selected Areas
★6 (0-3s-0).

EDFDN 650 The Nature of Philosophy in Education
★6 (0-3s-0).

EDFDN 651 Traditional Philosophies of Education
★6 (0-3s-0).

EDFDN 652 Recent Philosophy of Education
★6 (0-3s-0). Prerequisite: Consent of department.

EDFDN 660 Sociology of Education
★6 (0-3s-0).

EDFDN 661 Sociological Theory in Education
★6 (0-3s-0).

EDFDN 662 Sociology of Education: Research Methodology
★6 (0-3s-0).

204.25 Educational Psychology

Department of Educational Psychology
6-102 Education North
University of Alberta
Edmonton, Alberta T6G 2G5

204.25.1 General Information

The Department offers programs leading to the degrees of MEd, EdD, and PhD in the following specializations: educational psychology, counselling psychology, school psychology, and special education. Included in the special education program are two separate programs: one in

af education, (meeting the requirements of ACEHI rtification); and another in severe disabilities. These ograms are designed to provide specialist training for achers, administrators, consultants, research personnel, d others requiring specialized skills in this area. These ograms can be combined with other areas of activity in e Department of Educational Psychology or with those other departments.

ntrance Requirements:

The Department's minimum admission requirements e a four-year undergraduate degree with a minimum erage of 7.5 in the last 2 years of undergraduate work r graduate work) at the University of Alberta, or an quivalent qualification from a recognized institution, and TOEFL score of 560 where applicable (see §202.2.2).

inancial Assistance:

The Department offers financial support in the form of raduate research assistantships through the Faculty of raduate Studies and Research and graduate teaching ssistantships through the Faculty of Education.

Initial inquiries about the Department's programs and out graduate assistantships should be addressed to the hair, Department of Educational Psychology.

04.25.2 The Degree of MEd

rogram Requirements:

In addition to completing a thesis, all candidates for he master's degree are required to demonstrate ompetence in research methods, personality theory, evelopmental psychology, learning theory, and social sychology. The required level of competence is usually emonstrated by completion of the core courses which nclude EDPSY 500, 501, 509 and 510. In exceptional ases the core areas can be satisfied by obtaining a credit hrough approved equivalents, or by special examination.

There is no language requirement for the MEd degree.

The minimum period of residence is one academic ear (eight months) of full-time attendance at the University f Alberta.

ength of Program:

Normally, the completion of the master's degree equires two to three years, at least one of which must be n residence.

204.25.3 The Degree of EdD

Program Requirements:

The EdD program consists of a minimum of 24 to 30 units of course weight and the preparation and defence of a thesis on an approved topic (24 units of course weight are normally required for the basic educational psychology and special education programs; 30 units of course weight for the school psychology and counselling programs).

There is no language requirement for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

Two years beyond the master's degree are normally needed to complete the requirements for the EdD.

204.25.4 The Degree of PhD

Program Requirements:

The PhD program consists of a minimum of 30 units of course weight and the preparation and defence of a thesis on an approved topic (24 units of course weight are normally required for the special education program; 30 units of course weight for the basic, school psychology, and counselling programs). For students in counselling, the 30 units-of-course-weight program is made up as follows: compulsory core courses — EDPSY 610, 612, 616, 697 (theory), 697 (practicum), 630 (a course of six units of course weight designating the internship); optional courses — a minimum of nine units of course weight to be selected in consultation with the academic adviser, three of which must be a research methodology course.

No language other than English is required.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta. In the Counselling and School Psychology programs, one year of supervised internship is required as part of the residency requirement.

Length of Program:

Candidates are normally required to spend a minimum of two years beyond the master's degree to complete the PhD.

204.25.5 Graduate Courses

Note: Consent of department is required for all 500 and 600-level courses.

THES 900 Thesis
THES 999 Thesis

EDPSY 500 Introduction to Data Analysis in Educational Research
★3 (either term, 3-0-3). Formerly EDPSY 501 before 1989/90.

EDPSY 501 Introduction to Methods of Educational Research
★3 (either term, 3-0-3). Prerequisite: EDPSY 500 or equivalent. Formerly EDPSY 503.

EDPSY 502 Single Subject Research Design
★3 (first term, 3-0-0). Relates to profoundly or severely mentally retarded, multiply handicapped persons. Offered alternate years. Prerequisite: Consent of department. Formerly EDPSY 584 before 1989/90.

EDPSY 503 Qualitative Methods of Education Research
★3 (either term, 3-0-3). Prerequisite: EDPSY 501 or consent of department.

EDPSY 504 Non-parametric Statistical Inference in Educational Research
★3 (either term, 3-0-0). Formerly EDPSY 507 before 1989/90.

EDPSY 505 Advanced Univariate Statistics in Educational Research
★3 (first term, 3-0-3). Prerequisite: EDPSY 500 or equivalent.

EDPSY 506 Multivariate Statistical Methods in Education Research
★3 (second term, 3-0-3). Prerequisite: EDPSY 505 or consent of department.

EDPSY 507 Test Theory
★3 (first term, 3-0-0). Prerequisite: EDPSY 500 or equivalent, or consent of department. Formerly EDPSY 581 before 1989/90.

EDPSY 508 Seminar and Research in Educational Measurement
★3 (second term, 3-0-0). Prerequisite: EDPSY 507, or equivalent or consent of department. Formerly EDPSY 583 before 1989/90.

EDPSY 509 Advanced Educational Psychology: Development
★3 (either term, 3-0-0). Formerly EDPSY 569 before 1989/90.

EDPSY 510 Advanced Educational Psychology: Learning
★3 (either term, 3-0-0). Formerly EDPSY 571 before 1989/90.

EDADU 511 Instructional Design in Postsecondary Education
★3 (either term, 3-0-0).

EDPSY 511 Theories of Personality
★3 (either term, 3-0-0). Formerly EDPSY 515 before 1989/90.

EDPSY 512 Social Psychology and Education
★3 (either term, 3-0-0). Formerly EDPSY 591.

EDPSY 513 Psychology of Language, Cognition and Bilingualism
★6 (3-0-0). Formerly EDPSY 578 before 1989/90. Prerequisite: Consent of department.

EDPSY 514 Cross-Cultural Psychology
★3 (either term, 3-0-0). Formerly EDPSY 555 before 1989/90. Prerequisite: Consent of department.

EDPSY 515 Existential Phenomenological Psychology
★3 (either term, 3-0-0).

EDADU 521 Psychology of Learning and Teaching at the Adult Level
★3 (either term, 3-0-0).

EDPSY 522 Worklife and Career Development Issues: Theory and Research
★3 (second term, 3-0-0).

EDPSY 525 Religious and Moral Development and Education
★3 (either term, 3-0-0). Formerly EDPSY 517 before 1989/90.

EDPSY 526 Vocational Development and Choice
★3 (either term, 3-0-3). Formerly EDPSY 511 before 1989/90.

EDPSY 527 Seminar in Elementary School Counselling
★3 (second term, 0-3s-0). Formerly EDPSY 519 before 1989/90. Prerequisite: Consent of department.

EDPSY 528 Patterns of Interpersonal Relating
★3 (either term, 3-0-0). Formerly EDPSY 521 before 1989/90. Prerequisite: Consent of department.

EDPSY 529 Counselling for Personal Loss
★3 (either term, 3-0-3). Formerly EDPSY 525 before 1989/90. Prerequisite: Consent of department.

EDPSY 532 Systems of Counselling I
★3 (either term, 3-3s-0). This course will introduce students, with interests in counselling, to the major theories utilized in the counselling/psychotherapy area. Prerequisite or corequisite: EDPSY 511 or equivalent and consent of department. Formerly EDPSY 510 before 1989/90.

EDPSY 533 Basic Skills, Issues, and Attitudes in Counselling
★3 (either term, 2-1.5s-4). This course will focus on generic counselling skills and the enhancement of counsellor self-awareness. Prerequisite or corequisite: EDPSY 511 or equivalent or consent of department. Formerly EDPSY 512 before 1989/90.

EDPSY 535 Family Counselling: Advanced Practicum
★3 (either term, 3-0-3). Prerequisite: EDPSY 533 or equivalent and consent of department. Formerly EDPSY 523 before 1989/90.

EDPSY 537 Relaxation Approaches in Counselling
★3 (either term, 3-0-3). Prerequisite: EDPSY 532 and/or EDPSY 533 and consent of department. Formerly EDPSY 527 before 1989/90.

EDPSY 538 Seminar and Practicum in Group Counselling
★6 (0-3s-4). Prerequisite: EDPSY 533 or equivalent. Formerly EDPSY 518 before 1989/90.

EDPSY 539 Learning and Biofeedback
★3 (either term, 3-0-6). Formerly EDPSY 509 before 1989/90.

EDPSY 544 Principles of Psychological Testing and Assessment
★3 (either term, 3-0-1). Prerequisite: Consent of department. Formerly EDPSY 513 before 1989/90.

EDPSY 545 Individual Psychological Assessment
★6 (3-0-3). Prerequisite: Consent of department. Formerly EDPSY 524 before 1989/90.

EDPSY 546 Preschool Assessment Strategies
★3 (3-0-3). This course fits into diploma, masters and doctoral programs in basic educational psychology, school psychology, special education, and counselling psychology as an option in students' programs. As well, it serves as an option for students in other departments, i.e. early childhood education, psychology (developmental). Prerequisite or corequisite: EDPSY 509 and EDPSY 544 or EDPSY 549 and/or consent of department.

EDPSY 548 Psychology of Exceptional Children
★3 (either term, 3-0-0). An overview of the psychology of exceptional children with emphasis on intellectual and emotional deviance, learning disability, mental retardation, sensory deficits and the problems of deprivation. Formerly EDPSY 531 before 1989/90.

EDPSY 549 Advanced Course in Psychoeducational Diagnosis
★3 (first term, 3-0-1). To provide skill in administration and interpretation of a variety of psychoeducational measures which show potential in advancing our understanding of exceptional children. Prerequisite: EDPSY 255 or consent of department. Formerly EDPSY 533 before 1989/90.

EDPSY 550 Educational Programming from Psychoeducational Data
★3 (second term, 3-0-1). Prerequisite: EDPSY 549 or consent of department. Formerly EDPSY 535 before 1989/90.

EDPSY 551 Instructional Design in Special Education
★3 (either term, 3-1L-0). To provide skill in developing curriculum materials and instructional sequencing and criterion referenced tests through task analysis. Formerly EDPSY 537 before 1989/90.

EDPSY 552 Seminar and Practicum: Instructional Design in Special Education
★3 (either term, 1-3L-0). Prerequisite: EDPSY 551. Formerly EDPSY 557 before 1989/90.

EDPSY 553 Practicum in Special Education
★variable (variable). Supervised practicum in a variety of special education settings. Prerequisite: Consent of department. Formerly EDPSY 538 before 1989/90.

EDPSY 554 Behavior Management for Exceptional Individuals
★3 (either term, 0-4L-0). To provide skill in implementing behavior management practices in classroom settings as well as skills for assisting teachers to implement behavior management techniques. Formerly EDPSY 539 before 1989/90.

EDPSY 555 Seminar and Practicum in Behavioral Management
★3 (either term, 0-3L-0). Prerequisite: EDPSY 554. Formerly EDPSY 559 before 1989/90.

EDPSY 556 Problems and Issues in Special Education: High Incidence Groups and Service Delivery
★3 (first term, 3-0-0). Prerequisite: Consent of department. Formerly EDPSY 530 before 1989/90.

EDPSY 557 Problems and Issues in Special Education: Research and Professional Practice
★3 (either term, 3-0-0). Formerly EDPSY 540 before 1989/90.

EDPSY 558 Development and Learning of Exceptional Children and Adults
★3 (either term, 3-0-0). A consideration of the value of current theories in learning and development for understanding exceptional children. Prerequisite or corequisite: EDPSY 509, 548 and 510 or consent of department. Formerly EDPSY 541 before 1989/90.

EDPSY 559 Theory and Research in Mental Retardation
★6 (3-0-0). Prerequisite: Consent of department. Formerly EDPSY 542 before 1989/90.

EDPSY 560 Seminar on Research in Special Education
★6 (0-3s-0). Prerequisite or corequisite: EDPSY 501 or equivalent. Formerly EDPSY 544 before 1989/90.

EDPSY 561 Behavior Disorders of Childhood and Adolescence
★3 (2-1s-0). In depth treatment of basic topics, including definition, classification, models, assessment, education, treatment and prevention. Prerequisite: EDPSY 341 or equivalent or consent of department. Formerly EDPSY 546 before 1989/90.

EDPSY 564 Oral Communication in the Instruction of Hearing Impaired Students
★3 (either term, 2-1s-2). A practical course to develop speech teaching skills in intending teachers of hearing impaired students. Focuses on analytical and synthetical approaches to teaching speech and speech reading. Limited to Special Education students in the Hearing Impaired Program or practising teachers of the hearing impaired. Formerly EDPSY 543 before 1989/90.

EDPSY 565 Manual Communication in the Instruction of Hearing Impaired Students
★3 (either term, 2-1s-1). Develops skills in expressive and receptive manual communication in intending teachers of hearing impaired students. Focuses on the use of these skills in a classroom setting, rather than on the training of interpreters. Limited to Special Education students in the Hearing Impaired Program or practising teachers of the hearing impaired. Formerly EDPSY 545 before 1989/90.

EDPSY 566 Curriculum Design and Instructional Strategies for Hearing Impaired Students
★3 (either term, 2-1s-1). Explores the need for an integrated approach in planning and adapting existing curricula to meet the needs of hearing impaired students. The course will also explore the use of different instructional techniques with hearing impaired students. Formerly EDPSY 547 before 1989/90.

EDPSY 567 Social Psychology of Hearing Impairment
★3 (either term, 2-0-2). A course designed to develop an understanding of basic psychological social processes associated with deafness. It will emphasize preventative techniques in mental health and will foster empathy with the personal and social needs of deaf students. Formerly EDPSY 593 before 1989/90.

EDPSY 569 Language Development and Remediation with Hearing Impaired Students
★3 (either term, 1-1s-3). Application and development of the skills acquired in the two first level communication courses. Focuses on evaluation and analytical skills and on a diagnostic/prescriptive approach. Formerly EDPSY 549 before 1989/90.

EDPSY 570 Practicum in Education of Hearing Impaired Students
★variable (variable). Supervised placement in a classroom for hearing impaired students. Formerly EDPSY 548 before 1989/90.

EDPSY 571 Internship in Education of the Hearing Impaired Students
★variable (variable). Supervised placement for experienced teachers of hearing impaired students and other professionals experienced in this or a related area. Placement will be determined by the needs of each student registered in the course. Formerly EDPSY 548 before 1989/90.

EDPSY 572 Counselling Families of Hearing Impaired Students
★6 (2-1s-3). The traditional model used in "counselling" the families of deaf clients has a number of deficiencies. This course focuses on a psyco-social approach to counselling and draws more upon the techniques of "family therapy". It will not train counsellors, but it will orientate the student to the special needs of this group of clients. Formerly EDPSY 514 before 1989/90.

EDPSY 573 Counselling Hearing Impaired Students
★6 (0-0-6). The focus of this course is on a basic empathy and skill in instrumental and expressive support for hearing impaired students. It will survey a number of areas ranging from assessment to ethical constraints in working with hearing impaired students. More intensive work will focus on special areas (for example, vocational counselling). Post professional training for experienced teachers. Formerly EDPSY 516 before 1989/90.

EDPSY 577 Severe Disabilities: Orientation
★3 (either term, 0-0-3). Relates to profoundly or severely mentally retarded, multiply handicapped persons. Prerequisite: Consent of department. Formerly EDPSY 565 before 1989/90.

EDPSY 578 Severe Disabilities: Behavior Management
★3 (either term, 3-0-0). Relates to profoundly or severely mentally retarded, multiply handicapped persons. Prerequisite: Consent of department. Formerly EDPSY 575 before 1989/90.

EDPSY 579 Severe Disabilities: Assessment and Curriculum
★3 (either term, 3-0-0). Relates to profoundly or severely mentally retarded, multiply handicapped persons. Prerequisite: Consent of department. Formerly EDPSY 561 before 1989/90.

EDPSY 580 Severe Disabilities: Instruction
★3 (either term, 3-0-0). Relates to profoundly or severely mentally retarded, multiply handicapped persons. Prerequisite: Consent of department. Formerly EDPSY 573 before 1989/90.

EDPSY 581 Severe Disabilities: Sensory Deficits
★3 (either term, 3-0-0). Relates to profoundly or severely mentally retarded, multiply handicapped persons. Prerequisite: Consent of department. Formerly EDPSY 563 before 1989/90.

EDPSY 582 Severe Disabilities: Communications
★3 (second term, 3-0-0). Relates to profoundly or severely mentally retarded, multiply handicapped persons. Alternates between second and spring term. Prerequisite: Consent of department. Formerly EDPSY 585 before 1989/90.

EDPSY 583 Severe Disabilities: Introductory Practicum
★3 (either term, 0-0-3). Relates to profoundly or severely mentally retarded, multiply handicapped persons. Prerequisite: Consent of department. Formerly EDPSY 586 before 1989/90.

EDPSY 584 Severe Disabilities: Physical Aspects
★3 (either term, 3-0-0). Relates to profoundly or severely mentally retarded, multiply handicapped persons. Prerequisite: Consent of department. Formerly EDPSY 587 before 1989/90.

EDPSY 585 Severe Disabilities: Issues
★3 (second term, 3-0-0). Relates to profoundly or severely mentally retarded, multiply handicapped persons. Offered alternate years. Prerequisite: Consent of department. Formerly EDPSY 582 before 1989/90.

EDPSY 586 Severe Disabilities: Vocational and Life Skills
★3 (either term, 3-0-0). Relates to profoundly or severely mentally retarded, multiply handicapped persons. Prerequisite: Consent of department. Formerly EDPSY 589 before 1989/90.

EDPSY 587 Severe Disabilities: Advanced Practicum
★3 (either term, 0-0-3). Relates to profoundly or severely mentally retarded, multiply handicapped persons. Prerequisite: Consent of department. Formerly EDPSY 588.

EDPSY 589 Early Intervention Programs
★3 (either term, 0-0-4). An in-depth review and analysis of early intervention programs with at-risk and established-risk infants and young preschool children with a special emphasis upon family-based programs. Formerly EDPSY 551 before 1989/90.

EDPSY 592 Psychology and Education of Gifted Children
★3 (either term, 3-0-3). Formerly EDPSY 567 before 1989/90.

EDPSY 594 Core Seminar
★12 (0-6s-0). An integrated course limited to graduate students requiring the foundation normally provided through EDPSY 515, 569, 571, and 591. Subsequent registration in these courses will not be approved.

EDPSY 597 Special Seminars
★1, or ★2, or ★3, or ★4, or ★5, or ★6 (either term, variable). Content varies from year to year. Topics announced prior to registration period. The student's transcript carries title descriptive of content. May be repeated. Prerequisite: Consent of department.

EDPSY 599 Individual Directed Reading and Research
★3 (either term, 3-0-0). Prerequisite: Consent of department.

EDPSY 600 Doctoral Seminar in Educational Psychology
★6 (0-3s-0). Prerequisite: Consent of department.

EDPSY 602 Doctoral Research Seminar in Educational Psychology
★3 (0-1.5s-0). Prerequisite: Consent of department.

EDPSY 610 History and Systems
★3 (first term, 3-0-0).

EDPSY 612 Generic Orientation to Counselling Practice
★3 (first term, 3-3s-3).

EDPSY 616 Research in Counselling
★3 (first term, 3-0-0).

EDPSY 621 Advanced Psychological Assessment: Theories and Models
★3 (either term, 3-0-0). Prerequisite: EDPSY 545.

EDPSY 623 Advanced Personality Assessment: Objectives and Projective Testing
★3 (either term, 3-0-3). Prerequisite: EDPSY 545.

EDPSY 625 Applied Neuropsychological Assessment: Clinical Counselling and School
★3 (either term, 3-0-3). Prerequisite: EDPSY 545, 621, 623.

EDPSY 630 Doctoral Internship
★6 (0-6L-3). Prerequisite: EDPSY 612 or EDPSY 621/623.

EDPSY 640 Special Education
★6 (3-0-0).

EDPSY 660 Developmental Psychology
★3 (either term, 3-0-0).

EDPSY 676 Psychology of Learning
★3 (either term, 3-0-0).

EDPSY 680 Educational Measurement
★6 (3-0-3).

EDPSY 697 Special Seminars
★1, or ★2, or ★3, or ★4, or ★5, or ★6 (either term, variable). Prerequisite: Consent of department. Content varies from year to year. Topics announced prior to registration period. The student's transcript carries title descriptive of content. May be repeated.

EDPSY 699 Individual Directed Reading and Research
★3 (either term, 3-0-0). Prerequisite: Consent of department.

204.26 Electrical Engineering

Department of Electrical Engineering
238 Civil-Electrical Engineering Building
University of Alberta
Edmonton, Alberta T6G 2G7

204.26.1 General Information

The Department of Electrical Engineering offers graduate courses leading to the MEng, MSc, and PhD degrees to qualified graduates of recognized universities.

Research is being carried out in a number of areas, including biomedical engineering; electromagnetic heating in the recovery of fossil fuels, and in biological systems; integrated solid state sensors; ion accelerators and ion implantation; laser fusion; medical and industrial lasers; micro electronics and VLSI design; micro-processor applications; microwave power; optical fiber communications and microwave communications; plasmas; power electronics; power systems; radio astronomy; robotics; sampled data, adaptive and optimal control systems; signal processing; image processing; software engineering; photovoltaic power systems.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of full-time study (or equivalent) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 580 where applicable (see §202.2.2).

Financial Assistance:

Financial assistance can be arranged in the form of graduate assistantships, scholarships and research grant assistantships. Details are found in the Awards section of the Calendar.

204.26.2 The Degree of MSc

Program Requirements:

Normal requirements for the MSc degree are 18 units of course weight in graduate courses plus E E 600 and a thesis. Of the 18 units of course weight required, 12 must be from those offered by the Department of Electrical Engineering. Of the remaining courses, six units of course weight should normally be taken outside the Department. MSc candidates take E E 600 (Research Project Definition) in the second term of their program.

The minimum period of residence is two consecutive four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MSc will vary according to the previous training of the applicant and the nature of the research undertaken; however, a typical time of two years is normally required.

204.26.3 The Degree of MEng

Program Requirements:

The Master of Engineering program consists of 24 units of course weight plus a project which is equivalent to six units of course weight.

The minimum period of residence is one four-month term of full-time attendance at the University of Alberta.

Length of Program:

A candidate may complete the Master of Engineering program in a minimum of nine months. The maximum time permitted for the completion of the program is four years from the date of the first registration.

204.26.4 The Degree of PhD

Program Requirements:

For the PhD program, course requirements depend upon individual circumstances and must be approved by the Department. Emphasis is on research leading to a thesis of high calibre. The student's supervisory committee will recommend courses to be taken by the student to make up for course deficiencies and to support thesis research. All PhD candidates must take E E 609 and submit a research proposal.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary with the individual candidate.

204.26.5 Undergraduate Courses

The following senior undergraduate courses may be taken for graduate credit. Students wishing to take these courses must consult with the Deparment of Electrical Engineering.

E E 507 High Voltage Engineering
□3.8 (either term, 3-0-3/2). High voltage phenomena, dielectric breakdown, effects of high fields, Corona, lightning, switching surges, insulation coordination, grounding. (★3)

EE AS 512 Physical Measurements in Medicine
★3 (either term, 3-1s-0). Prerequisite: Consent of Department.

E E 514 Reliability Engineering
□3.0 (either term, 3-0-0). Study of how and why electrical and mechanical systems and components fail; Murphy's law; definitions of reliability and failure modes; practical statistical distributions and frequency and duration approach for designing and evaluating system and component reliability levels; repairable, non-repairable and standby systems. Prerequisite: E E 487 or equivalent. (★3)

E E 525 Power Systems II
□3.0 (either term, 3-0-0). Faults and unbalanced operation of systems, symmetrical components, stability and control, circuit breakers, tie line control, overvoltages, lightning and switching surges. Prerequisite: E E 521 or consent of Department. (★3)

E E 527 Industrial Power Distribution
□3.0 (either term, 3-0-0). Fundamentals of engineering design of electrical distribution systems for buildings and electrical plants. Current design practices and engineering methods. Prerequisite: E E 431. (★3)

E E 531 Power Electronics
□4.5 (either term, 3-0-3). Characteristics of power devices; BJT, MOSFET, SCR, GTO, Diode, R, L and C. Electronic power conversion techniques; choppers for DC/AC conversion, rectifiers for AC/DC conversion, inverters for DC/AC conversion, cycloconverters for AC/AC conversion. Applications in variable speed drives, switchmode power supplies, UPS and pulsed power. Prerequisite: E E 356, E E 471. (★3)

E E 533 Electrical Energy Sources
□3.0 (either term, 3-0-0). Energy consumption and reserves. Growth and usage characteristics. Electrical energy sources and costs, fossil, hydro nuclear and other sources. Economic planning of future sources and allocation of load among existing sources. (★3)

E E 537 Advanced Digital Topics
□3.0 (second term, 1-0-4). Microprocessor circuitry and applications, with emphasis on laboratory construction. Prerequisite: E E 471, 479 and 535. Enrollment by consent of Department. (★3)

E E 539 Digital Filter Realization
□3.4 (either term, 3-0-3/4). Approximation and finite-word length effects in digital filters. Digital filter implementation. A/D and D/A converters. Distributed arithmetic digital signal processors. FFT hardware realization. Noise in digital filters. Limit cycles and overflow oscillations. Prerequisite: E E 535 and 538. (★3)

EE AS 540 Digital Computer Processing of Images
★3 (either term, 3-0-3). Prerequisite: E E 538 or consent of instructor.

E E 545 Electrical Instruments and Relays
□4.5 (either term, 3-0-3). A study of modern AC instruments, relays, and applications. (★3)

E E 550 Analog Filter Design
□3.0 (either term, 3-0-0). Filter types. Operational Amplifier Circuits. Butterworth and Chebyshev response. Bi-quad, Sallen and Key and Delyannis filters. Frequency transformations. Ladder networks. Switched capacitor filters. Op-amp oscillators. Prerequisite: E E 460. (★3)

E E 552 Computer Aided Circuit Design
□3.5 (either term, 3-1s-0). Study of circuit design with emphasis on the implementation of digital computer techniques. Principles of modelling of electrical components and devices. Network function evaluation, linear frequency domain circuit analysis, transient analysis, DC analysis of circuits. Sensitivity, circuit optimization. Prerequisite: E E 451. (★3)

E E 561 Control Systems II
□3.8 (either term, 3-0-3/2). Important nonlinearities in systems; describing function method. State space method to describe systems; the phase plane method. Economic systems, ecological systems. System dynamics approach. Simulation, digital systems and design of digital controllers. Prerequisite: E E 560. Corequisite: E E 538. (★3)

E E 571 Electronics IV
□4.5 (either term, 3-0-3). Operational amplifier techniques, active filters, small-signal models for bipolar and field-effect transistors, tuned and untuned amplifiers, sinusoidal oscillators, modulation and demodulation techniques, device and system noise. Prerequisite: E E 460 and 570. (★3)

E E 572 Physical Electronics
□3.0 (either term, 3-0-0). Crystalline solids; quantum and wave theory of solids, electrons in periodic lattices; semiconductors; metal-metal structure; metal-insulator-semiconductor structure; high electric fields in semiconductors and failure mechanisms of semiconductor devices. Prerequisite: E E 423. (★3)

E E 573 Introduction to Integrated Circuits
□3.0 (either term, 3-0-0). Models for bipolar IC devices. Bipolar IC technology. Components of bipolar IC. Single and two transistor amplifiers. Current sources. Output stages. Models for MOS devices. CMOS technology. Scaling down the dimensions of MOS devices. Basic MOS analog circuits. Elemental bipolar and MOS digital circuits. Prerequisite: E E 470. Pre or corequisite: E E 471. (★3)

E E 575 Generation of High Frequencies
□3.8 (either term, 3-0-3/2). Fundamentals of microwave amplifiers and oscillators. Introduction to the principles of operation and the properties of important microwave tubes and microwave semiconductor devices. Prerequisite: E E 416. (★3)

E E 577 Pulse and Waveshaping Circuits
□3.0 (either term, 3-0-0). Waveshaping circuits using passive elements and active devices; pulse generating circuits, mainly multivibrators and blocking oscillators; generation of linear voltage and current sweeps; other topics such as counting circuits, gating circuits, applications to computers, television, etc. Prerequisite: E E 471. Corequisite: E E 570. (★3)

E E 583 Introduction to Plasma and Fusion
□3.0 (either term, 3-0-0). Energy sources and conditions for nuclear fusion. Behavior of plasma. Collision phenomena. Boltzmann equation, transport properties, electrical breakdown of gases. Hydrodynamic and individual particle methods. Current experimental approaches to fusion — steady state and pulsed. State-of-the-art in confinement and heating of plasma. (★3)

E E 585 Acoustics
□3.0 (first term, 3-0-0). General laws; impedance; transducers; enclosures; room acoustics; etc. (★3)

E E 586 Introduction to Optical Fibre Communications
□3.0 (either term, 3-0-0). Properties of optical communication systems; dispersion, attenuation and physical properties of single mode and multimode fibres; LED and laser diode sources; photodetectors; optical coupling; system design; latest developments. Prerequisite: E E 471 and 489 or consent of Department. (★3)

E E 588 Communication in Noise
□3.0 (either term, 3-0-0). Probability, random variables and processes, Gaussian noise, noise in AM and FM Systems, data transmission, information theory and coding. Prerequisite: E E 487 and 489. (★3)

E E 589 Telecommunication Systems
□3.5 (either term, 3-1s-0). Common-carrier telecommunication systems (including telephone networks); signal quality and systems specifications; exchange switching and queuing; distortion and signal-to-noise ratio; multiplexing, modems and frequency converters; transmission media, digital transmission methods, and system constraints; signal conditioning; field trips. Prerequisite: E E 489. (★3)

E E 591 Antennas and Propagation
□3.0 (either term, 3-0-0). Introduction to radiation, antenna fundamentals, self- and mutual-impedances of linear antennas, arrays of linear antennas, practical considerations and feeding arrangements. Friis transmission equation, propagation between elevated antennas over a lossy earth, Fresnel zones and the effect of obstacles, earth curvature and the effects of normal refraction and ducting, tropospheric scatter, propagation in an ionized medium, ionospheric critical frequency and MUF. Prerequisite: E E 356 and 416. (★3)

E E 593 Advanced Topics in Engineering Electromagnetics
□3.0 (either term, 3-0-0). Engineering aspects of wave propagation in ionized gases, waves in anisotropic media (including ferrites), magnetohydrodynamics, space charge waves, travelling wave tubes, accelerators, periodically loaded structures, surface waveguides, forces on dielectric and magnetic materials in non-uniform fields and their biomedical and industrial applications, perturbation theory. (★3)

E E 596 Introduction to Principles and Physics of Lasers
□3.0 (either term, 3-0-0). Interaction of radiation with atoms, laser oscillations and threshold conditions, 3- and 4-level laser systems, rate equations, special properties of laser light, cavity Q and photon lifetime, optical resonators and lens waveguides, Gaussian beams, gain saturation, Q-switching, mode locking, interaction of light and sound, holography. Description of various lasers: solid, gas, semiconductor, dye, Raman and chemical. Laser applications. Prerequisite: E E 416 or equivalent. (★3)

E E 597 Microwave Engineering
□3.8 (either term, 3-0-3/2). Properties of transmission media, synthesis of impedance transformers, microwave junctions, scattering matrix and scattering parameters, properties of microwave cavities, filters, ferrite circulators and isolators. Prerequisite: E E 416. (★3)

E E 598 Special Problems I
□3.0 (first term, 3-0-0). (★3)

E E 599 Special Problems II
□3.0 (second term, 3-0-0). Courses E E 598 and 599 are intended to enable individuals or a small group of students to study topics in their particular field of interest under the supervision of a member of the Faculty. (★3)

204.26.6 Graduate Courses

Note: The following courses will be offered on a regular basis, subject to demand.

THES 900 Thesis
THES 999 Thesis
EE 900 ★6 Directed Research Project

E E 600 MSc Research Project Definition
□0.5 (second term, 0-1s-0). Preparation of a report defining the proposed MSC thesis research. (★0)

E E 601 Special Topics in Electrical Engineering I
□3.0 (first term, 3-0-0). Intended to enable individual students to study special topics under the supervision of a member of the faculty. (★3)

E E 602 Special Topics in Electrical Engineering II
□3.0 (second term, 3-0-0). Same as E E 601, except this course number is to be used during the second term. (★3)

E E 609 PhD Research Project Definition
□0.5 (either term, 0-1s-0). Preparation of a report defining the proposed PhD thesis research. (★0)

E E 619 Microelectronics Process Technology
□3.0 (second term, 3-0-0). The VLSI integrated circuit fabrication process. Overview of processing steps.

Basic semiconductor physics. Silicon wafer material. Oxidation. Photolithography. Diffusion. Ion implantation. Chemical vapour deposition. Metallization. Process model. Yield, packaging and assembly. (★3)

E E 620 Solid-state Sensors
□3.0 (second term, 3-0-0). Sensors and actuators in measurement, control, and robots. Sensor technologies. Silicon microtransducers. Integration of microelectronic sensors and signal processing circuits. Magnetic field sensors. Optoelectric transducers. Pressure, temperature, chemical and biochemical sensors. Actuators and displays. (★3)

E E 622 Power System Problems I
□3.0 (first term, 3-0-0). Selected power system topics, such as stability, circuitbreaking, economic scheduling of generation, overvoltages, digital and analogue approaches to analysis. (★3)

E E 623 Power System Problems II
□3.0 (second term, 3-0-0). A continuation of E E 622, considering topics such as tie line control, excitation and its effect on the system. The application of control systems is emphasized. (★3)

E E 624 Advanced Power Electronic Conversion
□3.0 (second term, 3-0-0). Interactions between the utility system and naturally commutated AC/DC converters; improved converter structure using forced commutation, resonant mode power converters; voltage and harmonic control using PWM techniques; analysis of current and voltage course inverter drives; principles of HVDC conversion and static VAR compensation. Prerequisite: E E 531 or equivalent. (★3)

E E 628 Radio Astronomy Techniques
□3.0 (second term, 3-0-0). Radiometry; galactic background and sources; antennas and arrays as spatial frequency filters; aperture synthesis; earth-rotation synthesis; interferometry; correlation receivers. (★3)

E E 631 Analogue Integrated Circuit Design
□3.0 (first term, 3-0-0). Models for bipolar, JFET and MOS transistors; basic single transistor stages, cascode stage; differential stage with bipolar, JFET, MOS transistors, device mismatch, offset and drift; current sources for biasing; current sources as active loads; supply independent bias, voltage sources and voltage references; level shifters; input stages of operational amplifiers; output stages and protection circuits; monolithic operational amplifier, tutorial study and design example. (★3)

E E 632 Design with Analogue Integrated Circuits
□3.0 (second term, 3-0-0). Basic application of integrated operational amplifiers, inverting and noninverting modes, errors; difference and AC amplifiers, current sources; integration, differentiator, dynamic errors: sample and hold amplifiers; frequency compensation of operational amplifiers; comparators, limiters, waveform generators; multipliers, phaselock loops, design and applications; wideband amplifiers; noise in integrated circuits. (★3)

E E 633 Analogue MOS LSI Circuit Design
□3.0 (either term, 3-0-0). MOS transistor operation and models. Bias in MOS analogue integrated circuits. MOS transistor operation amplifier, its design and limitations. Comparators. Multipliers and sensors. Switch-capacitator filters, biquad realization and realization of complex filters. Dynamic MOS transistor converters. (★3)

E E 635 Logical Design of Digital Computers
□3.0 (first term, 3-0-0). A continuation of E E 379; design and realization of synchronous and asynchronous sequential circuits in checking the design of controller; using standard integrated circuits and MSI devices. (★3)

E E 638 Microelectronic Devices
□3.0 (first term, 3-0-0). Physical Electronics of Solids. PN Junctions. Currents in PN Junctions and bipolar transistors. Properties of the Oxide-Silicon system. MOS capacitors and charge-coupled devices. The MOSFET; charge-control and distributed models. Threshold control. (★3)

E E 641 High Vacuum Technology
□3.8 (either term, 3-0-3/2). Gas kinetics; gas flow; pumping speed theory; pumping methods; pressure, measurement; vacuum system design; leak detection techniques; residual gas analysis; sorption processes. (★3)

E E 645 Selected Laser Topics
□3.0 (either term, 3-0-0). Design, construction and operational aspects of various types of lasers; principles of modulation and detection; transmission medium effects; optical components and concepts; information systems; noise and quantum considerations; special applications. (★3)

E E 653 Integrated Circuit Design
□3.0 (either term, 3-0-0). Electrical characteristics of MOSFET devices and circuits. Simulation of MOSFET circuits. Integrated circuit fabrication. Design and layout of CMOS digital integrated circuits. Use of a computer layout system. Architecture of LSI and VLSI systems. Digital system timing and timing simulation. Computer aids for integrated circuit design. (★3)

E E 655 Introduction to Modern Control Theory
□3.0 (first term, 3-0-0). System concepts. Classical and modern control system theories. Matrix calculus. Eigenvalues and eigenvectors. Formulation and solution of state equation of continuous and discrete systems. Controllability and observability. Lyapunov stability of linear and nonlinear systems. Design of controllers for pole placement by state and output feedback. Observer design. (★3)

E E 656 Statistical Communications
□3.0 (second term, 3-0-0). Random processes; correlated function and power spectrum of stationary processes; optimal receivers in the presence of noise; coding for noise immunity; implementation of coded systems; Fano decoding algorithm. (★3)

E E 660 Optimal Control Systems
□3.0 (second term, 3-0-0). Optimal control problem statement. Use of calculus of variations to solve optimal control problems. Continuous system linear regulator problem. Control constraint and Pontryagin's Minimum Principle. Time-optimal control. Dynamic programming and discrete linear regulator. Kalman Filtering for discrete systems. Extended Kalman Filter for nonlinear systems. Prerequisite: E E 655 or equivalent. (★3)

E E 662 Discrete Data Control Systems I
□3.0 (first term, 3-0-0). Introduction to sampled-data and computer controlled systems. Difference equations representation. Z transforms. Block diagrams and transfer functions. Mason's gain formula. Digital redesign of analogue systems. Design of digital controlleres using root-locus in the z-plane. State space models of sampled data control systems. Design of state feedback controllers for pole placement in discrete systems: Ackermann formula. State estimators (full order and reduced order observers). Servo controller design with and without observers. (★3)

E E 663 Discrete Data Control Systems II
□3.0 (either term, 3-0-0). Implementation of digital controllers. Sources of errors. Quantization effects. A/D conversion noise. Product roundoff noise. Parameter truncation; limit cycles. System identification; different methods of parameter estimation. Adaptive control: different approaches. Prerequisite: E E 662 or equivalent. (★3)

E E 670 Electromagnetic Theory
□3.0 (first term, 3-0-0). Review of electrostatics, magnetostatics, Maxwell's equations, wave equation; relation of microscopic to macroscopic fields; Maxwell stress tensor, particle dynamics, ponderomotive forces on material bodies, field momentum, energy densities; properties of electric and magnetic materials; antennas and radiation; propagation in anisotropic media. (★3)

E E 682 Microwave Circuit Theory
□3.0 (first term, 3-0-0). Scattering and impedance matrices of microwave junctions; microwave filter design, discontinuities in transmission lines; non-uniform transmission lines; non-reciprocal microwave elements. (★3)

E E 683 Optical Fibre Communications
□3.0 (first term, 3-0-0). Semiconductor laser structures; analysis of spectra, modulation characteristics and coupling. Fibre wave analysis, attenuation, dispersion, taps. Detector noise considerations and receiver circuit design. System options and design, coding. Heterodyning, electro-optical switching and recent developments. (★3)

E E 693 Elements of Plasma Theory
□3.0 (first term, 3-0-0). The theoretical background for investigating plasmas developed from kinetic theory. Topics include Saha's equation; Debye potential; Liouville's equation; the BBGKY kinetic theory; the moment equations, including magnetohydrodynamic problems; the Vlassov theory, with examination of plasma oscillations and Landau damping. (★3)

E E 695 Plasma Devices and Diagnostics
□3.0 (second term, 3-0-0). Methods of obtaining plasmas; shock tubes; discharges, etc.; plasma diagnostics including electric, magnetic and optical probing of plasmas. (★3)

204.26.7 Advanced Topics Courses

E E 629 Advanced Topics in Power Systems
□3.0 (either term, 3-0-0). (★3)

E E 639 Advanced Topics in Electronics
□3.0 (either term, 3-0-0). (★3)

E E 649 Advanced Topics in Lasers
□3.0 (either term, 3-0-0). (★3)

E E 659 Advanced Topics in Controls
□3.0 (either term, 3-0-0). (★3)

E E 669 Advanced Topics in Biomedical Engineering
□3.0 (either term, 3-0-0). (★3)

E E 671 Advanced Topics in Electromagnetics
□3.0 (first term, 3-0-0). (★3)

E E 679 Advanced Topics in Communications
□3.0 (either term, 3-0-0). (★3)

E E 689 Advanced Topics in Microwaves
□3.0 (either term, 3-0-0). (★3)

E E 699 Advanced Topics in Plasma
□3.0 (either term, 3-0-0). (★3)

204.26.8 Supplementary Courses

Note: The following courses are not offered on a regular basis. Check with the Department.

E E 603 Departmental Research Seminar I
□0.5 (first term, 0-2s-0). (★0)

E E 642 Special Topics Using High Vacuum Technology
□3.0 (second term, 3-0-0). Ion bombardment of solid and thin film surfaces; sputtering of thin films; growth; structure and properties of thin films; field ion microscopy. (★3)

E E 651 Network Synthesis I
□3.0 (first term, 3-0-0). Energy functions; positive real functions; driving point function synthesis of 2 element and 3 element 1-port passive networks; introduction to transfer function synthesis of passive 2-port networks; determination of network functions; introduction to approximation. (★3)

E E 657 Advanced Communication Theory
□3.0 (second term, 3-0-0). Principles of optimum receiver design, signal coding for noisy channels, channel reliability, selected topics in communication system design. (★3)

E E 665 Biosystems Modeling and Analysis
□3.0 (either term, 3-0-0). Principles of modelling, control theory, system identification, related to biological systems; applications to modelling and analysis of selected biological systems. (★3)

E E 666 Nonlinear Systems Theory
□3.0 (either term, 3-0-0). Analysis of nonlinear systems with deterministic and random inputs, using state space methods, perturbation methods, averaging methods, describing function methods, functional analysis; topics in stability theory. (★3)

E E 680 Microwave Measurements and Techniques
□2.8 (second term,2-0-3/2). Measurement of power; impedance and frequency; representation and measurement of microwave circuits; resonant cavity characteristics; microwave properties of dielectrics; noise in microwave communications systems. (★3)

E E 681 Semiconductor Microwave Electronics
□3.0 (first term, 3-0-0). Review of semiconductor physics; high field conduction in semiconductors; IMPATT and TRAPATT diodes, barrier (or Punch-through) injection and transit time diodes; transferred electron (Gunn) diodes, p-i-n diodes, varactors, Schottky-barrier diodes; transistors and circuits; detectors and mixers — theory and design considerations. Two-port oscillators — theory, design and injection-locking; theory of parametric systems. (★3)

E E 694 Advanced Topics in Plasma Theory
□3.0 (second term, 3-0-0). (★3)

204.27 Elementary Education

Department of Elementary Education
551 Education South
University of Alberta
Edmonton, Alberta T6G 2G5

204.27.1 General Information

The Department of Elementary Education offers graduate programs leading to the degrees of MEd, EdD, and PhD. These programs are designed to help prepare consultants and supervisors, master teachers, and personnel for teacher education institutions.

Application forms for admission to graduate programs can be secured by writing to the Chair of the Department.

Entrance Requirements:

The Department's minimum admission requirements include a valid teaching certificate, and an undergraduate degree equivalent to a BEd degree from the University of Alberta with a minimum grade point average of 7.0 on the last 60 units of course weight completed of undergraduate (graduate) work. Successful teaching experience is also required, and where applicable (see §202.2.2) candidates must have a TOEFL score of at least 550.

To be admitted to the EdD or PhD program a candidate is normally required to have the equivalent of a University of Alberta MEd degree. Under certain circumstances it is possible to enter with the equivalent of the BEd degree, but in such instances potential candidates must plan at least three years of continuous attendance.

Successful teaching experience is also a prerequisite for admission into an EdD or a PhD program.

ancial Assistance

A number of graduate assistantships are available.

4.27.2 The Degree of MEd

ogram Requirements:

Two routes to the MEd degree are available: a thesis-ed route and a course-based route. Requirements for thesis-based MEd degree normally include courses ivalent to 30 units of course weight plus a thesis (18 s of course weight). Requirements for the course-ed MEd degree normally include course work equivalent 9 units of course weight plus a major project (six units ourse weight).

There is no language requirement for the degree.

The minimum period of residence for the thesis-based te is one academic year of full-time attendance at the versity of Alberta. There is no residence requirement the course-based master's.

ngth of Program:

The time required to complete the MEd program ies with the individual candidates and the route selected. e minimum time required to complete the MEd program 4 consecutive months of full-time registration.

04.27.3 The Degree of EdD

ogram Requirements:

The EdD program requirements are individually defined d normally range from 36 to 48 units of course weight is a dissertation.

There is no language requirement for the EdD.

The minimum period of residence is two academic ars of full-time attendance at the University of Alberta.

ength of Program:

The time required to complete the EdD program will ry with the individual candidate; however, normally a nimum of 30 months is required.

04.27.4 The Degree of PhD

rogram Requirements:

The PhD program requirements are individually defined d normally range from 36 to 48 units of course weight is a dissertation.

No language other than English is required.

The minimum period of residence is two academic ars of full-time attendance at the University of Alberta.

ength of Program:

The time required to complete the PhD will vary cording to the previous training of the applicant and the ture of the research undertaken; however, normally a inimum of 30 months of study and research is required.

04.27.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis
ED EL 900 ★6 Directed Research Project

D EL 500 Program Development and Research in lementary School Art: Performance
3 (either term, 3-0-0). Prerequisite: ED EL 400 or nsent of department.

D EL 501 Program Development and Research in lementary School Art: History and Criticism
3 (either term, 3-0-0). Prerequisite: ED CI 400 or con-ent of department.

D EL 505 Theories of Language Processing
3 (either term, 3-0-0). Prerequisite: One-half course quivalent in reading education and one-half course equivalent language education, or consent of department.

D EL 506 Theories of Language Development: The lementary School Child
3 (either term, 3-0-0). Prerequisite: One-half course quivalent in each of reading and language curriculum nd instruction, or consent of department.

D EL 507 Issues in Developmental Literacy
3 (either term, 3-0-0). Prerequisite: One-half course in eading education and one-half course in language ducation, or consent of department.

D EL 508 Diagnosis and Remediation of Reading nd Writing Problems I
3 (either term, 3-0-3). Prerequisite or corequisite: D EL 505 or equivalent.

D EL 509 Diagnosis and Remediation of Reading nd Writing Problems II
3 (either term, 3-0-3). Prerequisite ED EL 508.

D EL 510 Curriculum and Instruction in Children's Literature for Elementary Schools
3 (either term, 3-0-0). Prerequisite: One-half course equivalent in each of language and reading education or consent of department.

ED EL 511 Elementary Language Arts Programs: Development and Supervision
★3 (either term, 3-0-0). Prerequisite: One-half course equivalent in each of reading and language curriculum and instruction, or consent of department.

ED EL 512 Oral Language: Content and Context of the Classroom
★3 (either term, 3-0-0). Prerequisite: One-half course equivalent in language education or consent of department.

ED EL 513 Speech and Oral Language Disorders — Implications in the Elementary Classroom
★3 (either term, 3-0-0).

ED EL 516 Program Development in Elementary School Mathematics I
★3 (either term, 3-0-0). Prerequisite: ED EL 415 or consent of department.

ED EL 517 Research in Mathematics Education I
★3 (either term, 3-0-0). Prerequisite: ED EL 415 or consent of department.

ED EL 520 Program Development in Elementary School Physical Education (Movement Education)
★3 (either term, 3-0-0). Prerequisite: Diploma or Graduate Students only.

ED EL 521 Implementation of Elementary School Physical Education (Movement Education) Programs
★3 (either term, 3-0-0). Prerequisite: Diploma or Graduate Students only.

ED EL 525 Program Development in Elementary School Music
★3 (first term, 3-0-0). Prerequisite: ED EL 326 or consent of department.

ED EL 526 Research in Elementary School Music
★3 (second term, 3-0-0). Prerequisite: ED EL 525 or consent of department.

EDADU 530 Literacy in Adult Education
★3 (either term, 3-0-0). Coordinated by the Department of Elementary Education.

ED EL 530 Research in Elementary School Science
★3 (either term, 3-0-0). Prerequisite: ED EL 430 or 431 or consent of department.

ED EL 531 Program Development in Elementary School Science
★3 (either term, 3-0-0). Prerequisite: ED EL 430 or 431 or consent of department.

ED EL 535 Program Development in Elementary Social Studies I
★3 (either term, 3-0-0). Prerequisite: ED EL 435 or consent of department.

ED EL 536 Program Development in Elementary Social Studies II
★3 (either term, 3-0-0). Prerequisite: ED CI 535 or consent of department.

ED ES 541 School Library Collection Development
★3 (either term, 3-0-0). Prerequisite: ED ES 443 or consent of department.

ED ES 543 School Library Programs
★3 (second term, 3-0-0). Focus on cooperative planning and implementation of school library programs. Prerequisite: ED ES 443 or consent of department.

ED EL 545 Program Development in Second Language Education
★3 (either term, 3-0-0).

ED EL 546 Teaching and Learning Strategies in Second Language Education
★3 (either term, 3-0-0).

ED ES 546 School Library Information Materials
★3 (either term, 3-0-0). Prerequisite or corequisite: ED ES 443 or consent of department.

ED ES 547 Organization of School Library Materials
★3 (either term, 3-0-2). Prerequisite or corequisite: ED ES 443 or consent of department.

ED ES 548 Directed Study in School Library Research
★3 (second term, 3-0-0). Prerequisite or corequisite: ED ES 443 and 543 or consent of department.

ED EL 550 Problems in the Teaching of English as a Second or Other Language
★3 (either term, 3-0-0). Prerequisite: ED EL 450 and 451 or equivalent.

ED EL 551 Program Development in the Teaching of English as a Second or Other Language
★3 (either term, 3-0-0). Prerequisite: ED EL 450 and ED EL 451 or equivalent.

ED ES 551 Curriculum Design
★3 (either term, 3-0-0). The application of curriculum theory to a specific task; the planning of a curriculum which can be used by teachers as a point of departure for their teaching.

ED EL 555 Early Childhood Education: Home/School/Community Relations
★3 (either term, 3-0-0). This course is designed to investigate the teacher's role in improving communication among the school, home, and community.

ED EL 556 Program Development in Early Childhood
★3 (either term, 3-0-0). Prerequisite: ED EL 457 or consent of department.

ED EL 557 Research in Program Development in Early Childhood Education
★3 (either term, 3-0-0). Prerequisite: ED CI 556 or consent of department.

ED EL 560 Foundations of Curriculum Development
★3 (either term, 3-0-0). A study of educators' views of knowledge, society, and the learner and the effect of those views on curriculum development.

ED EL 561 Processes of Curriculum Development
★3 (either term, 3-0-0). A study of the ways in which curricula are produced, implemented, and evaluated.

ED EL 565 Research and Support Services and Skills
★3 (0-1s-0; 0-2s-0). Reports and discussion by staff and graduate students to provide candidates for advanced degrees with experience in the selection and evaluation of research problems and procedures.

ED EL 566 Issues in Designing and Conducting Educational Research
★3 (either term, 0-3s-0). Prerequisite: ED EL 567 or consent of department.

ED EL 567 Introduction to Educational Research
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

ED EL 568 Introduction to Qualitative Research Methods in Education
★3 (either term, 3-0-0).

ED EL 570 Instructional Practices in the Elementary Classroom
★3 (either term, 3-0-0).

ED EL 571 Models of Teaching
★3 (either term, 3-0-0).

ED EL 590 Directed Individual Study in Elementary Education
★3 (either term, 3-0-0). Prerequisite: Consent of department.

ED EL 591 Directed Individual Study in Elementary Education
★6 (variable). Prerequisite: Consent of department.

ED EL 595 Seminar in Elementary Education — Selected Topics
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

ED EL 596 Special Seminars in Elementary Education
★Variable (either term, variable). Prerequisite: Consent of department.

ED EL 600 Research in Art Education
★6 (3-0-0).

ED EL 605 Theories and Models of Reading Process
★3 (either term, 3-0-0).

ED EL 606 Research I: Bases of Knowledge for Reading Research
★3 (either term, 3-0-0).

ED EL 607 Research II: Recent Research in Reading
★3 (either term, 3-0-0).

ED EL 608 Evaluation and Administration of Remedial Procedures
★3 (either term, 3-0-3).

ED EL 609 Research in Language
★6 (3-0-0).

ED EL 615 Program Development in Elementary School Mathematics II
★3 (either term, 3-0-0).

ED EL 616 Research in Mathematics Education II
★3 (either term, 3-0-0).

ED EL 635 Research in Elementary School Social Studies
★3 (first term, 3-0-0).

ED EL 636 Planning Research in Elementary School Social Studies
★3 (second term, 3-0-0). Prerequisite: ED EL 635.

ED ES 649 Curriculum Evaluation
★3 (first term, 3-0-0). An inter-departmental seminar devoted to an examination of evaluation in the broad perspective of its place in education.

ED ES 650 Curriculum Evaluation Practicum
★3 (either term, 3-0-0). The preparation and implementation of an evaluation study in the field. Prerequisite or corequisite: ED ES 649.

ED EL 690 Individual Project
★3 (either term, variable). Comprehensive problems in Curriculum and Instruction — Elementary. Includes preparation of final report.

ED EL 691 Individual Project
★6 (variable). Comprehensive problems in Curriculum and Instruction — Elementary. Includes preparation of final report. May be offered in a single term.

ED EL 695 Seminar in Elementary Education
★3 (either term, 0-3s-0, or 0-1.5s-0). Discussion of perennial issues and current solutions to problems in elementary education. Compulsory for all doctoral students.

ED EL 696 Conference Course in Elementary Education
★6 (variable). May be offered in a single term.

ED EL 697 Symposium in Elementary Education
★3 (either term, 3-0-0, or 1.5-0-0). Research reports by staff and students. Compulsory for all doctoral students.

204.27.6 Reserve

ED EL 546 Teaching and Learning Strategies in Second Language Education
★3 (either term, 3-0-0).

ED EL 660 Curriculum and Instruction Laboratory
★0. Discussion and supervision of experiences designed to prepare doctoral students for pre-service and in-service education of Elementary School teachers. Compulsory for all doctoral students.

204.28 English

Department of English
3-5 Humanities Centre
University of Alberta
Edmonton, Alberta T6G 2E5

204.28.1 General Information

The Department of English offers graduate work leading to the Master of Arts and Doctor of Philosophy degrees in English language and literature. The Department also offers a postgraduate diploma in English.

The Department is large and various, and offers courses in all areas of English language and literature, from Old English to contemporary British, American, and Canadian writing. It is particularly strong in Renaissance, nineteenth-century, and Canadian literature, and in creative writing.

The University's libraries contain a 5,000,000 volume equivalent, and holdings in English, Canadian, American, and Commonwealth literature totalling more than 150,000 volumes. Special collections in English literature include early editions of Bunyan and Milton; facsimiles of the Dove Cottage Wordsworth papers; first and rare editions of Scott, Thackeray, Dickens (including serial parts); Emily Dickinson manuscript facsimiles; exceptionally large holdings in Lawrence, Yeats, and Joyce; and manuscripts and archives in the literature of Canada, including the manuscripts of the poetry of Dorothy Livesay from 1919-1974.

Entrance Requirements:

The normal requirements for admission to the MA program include an Honors degree in English or its equivalent in number of courses (60 units of course weight), coverage (six units of course weight in each of the major periods and figures: Old and Middle English, including Chaucer; early Renaissance, including Shakespeare; later Renaissance, including Milton, and/or Restoration and Eighteenth Century Literature; Romantic and Nineteenth Century Literature; Modern British and/or American Literature; and Canadian Literature [though this will not be required of students from outside Canada]), and high academic standing (a 7.5 GPA in courses in English). Where applicable a TOEFL score of 600 is required (see §202.2.2).

Financial Assistance:

The Department has regular provision for graduate assistantships. (Part-time, course-based MA students are ineligible for Department financial support.) Application should be made, if possible, by February 1.

204.28.2 The Degree of MA

Program Requirements:

For a student with an Honors BA in English (or its equivalent) the MA program will consist of one of two options: 18 units of course weight in graduate courses in the Department, some practical training in bibliography, a thesis, and an oral defence of the thesis; or 24 units of course weight in graduate courses in the Department, some practical training in bibliography and a project equivalent to six units of course weight which is a graduating seminar paper involving a public presentation and a private defence. The course-based option may be pursued on a part-time basis. The MA program of a student without an Honors BA in English may require more courses, depending upon the number of English courses that have been taken as an undergraduate.

A reading knowledge of one language other than English will be required of all students (normally French or German, although other languages may be approved).

For full-time MA students the minimum period of residence is two four-month terms of full-time attendance at the University of Alberta for candidates with an Honors degree in English (or its equivalent); for candidates without an Honors BA in English the residence requirement may be somewhat longer.

Length of Program:

The time required to complete the MA will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of 12 months is normally required.

204.28.3 The Degree of PhD

Program Requirements:

A student with an MA in English (or its equivalent) may be admitted as a provisional candidate for the PhD degree. The program of a provisional candidate will normally include 18 units of course weight in graduate courses (three of which may be taken outside the Department of English), as well as departmental examinations, and an oral candidacy examination.

The student must demonstrate a reading knowledge of two languages other than English (usually French and German). After a student has passed all examinations, the student will become a candidate for the PhD and will then submit a thesis and make an oral defence of the thesis.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary with the individual candidate; however, a minimum of two years of study and research is normally required.

204.28.4 Postgraduate Diploma

Program Requirements:

Note: Effective 1990-91 no new students are being admitted into the program. Once those already in the program have completed their requirements, the program will be discontinued.

The postgraduate diploma program normally consists of four full-year courses.

No language other than English is required.

There is no residence requirement, and the diploma may be taken on a part-time basis.

Length of Program:

The time required to complete the diploma program will vary; however, a minimum of 18 months is normally required.

204.28.5 Graduate Courses

Selected courses from the following list will be offered each year. Details of each year's program may be obtained early in the preceding spring from the Chair of the Graduate Committee.

THES 900 Thesis
THES 999 Thesis
ENGL 900 ★6 Directed Research Project

ENGL 540 The Theory and Practice of Expository Writing
★6 (3-0-0). Note: Restricted to students in the Postgraduate Diploma Program.

ENGL 541 Forms of English Prose
★6 (3-0-0). Note: Restricted to students in the Postgraduate Diploma Program.

ENGL 542 Forms of English Poetry
★6 (3-0-0). Note: Restricted to students in the Postgraduate Diploma Program.

ENGL 543 Forms of English Drama
★6 (3-0-0). Note: Restricted to students in the Postgraduate Diploma Program.

ENGL 544 The Canadian Literary Tradition
★6 (3-0-0). Note: Restricted to students in the Postgraduate Diploma Program.

ENGL 545 Prose for Children and Young Adults
★6 (3-0-0). Note: Restricted to students in the Pc graduate Diploma Program.

ENGL 546 Poetry for Children and Young Adults
★6 (3-0-0). Note: Restricted to students in the Pc graduate Diploma Program.

ENGL 553 Directed Reading
★6 (3-0-0).

ENGL 554 Directed Reading
★3 (first term, 3-0-0).

ENGL 555 Directed Reading
★3 (second term, 3-0-0).

ENGL 560 Bibliography and Methods of Research
★0 (1-0-0).

ENGL 561 Introduction to the Teaching of Freshman English
★0 (either term, 1-0-0).

ENGL 562 Uses of the Computer in Literary Studies I
★0.

ENGL 563 Uses of the Computer in Literary Studies II
★0.

ENGL 567 Studies in Literary History
★3 (either term, 3-0-0).

ENGL 569 Studies in Literary Criticism
★3 (either term, 3-0-0).

ENGL 570 History of Literary Criticism
★6 (3-0-0). Not to be taken by students with credit ENGL 568.

ENGL 571 Critical Theory
★6 (3-0-0). Not to be taken by students with credit ENGL 568.

ENGL 576 The English Language
★6 (3-0-0).

ENGL 577 Studies in the English Language
★3 (either term, 3-0-0).

ENGL 584 Creative Writing
★6 (3-0-0).

ENGL 586 Studies in American Literature
★3 (either term, 3-0-0).

ENGL 587 Nineteenth-Century American Literature
★6 (3-0-0).

ENGL 589 Twentieth-Century American Literature
★6 (3-0-0).

ENGL 590 Canadian Literature
★6 (3-0-0).

ENGL 591 Studies in Canadian Literature
★3 (either term, 3-0-0).

ENGL 592 Old Norse Literature
★6 (3-0-0).

ENGL 601 Editing Literary Texts in English
★6 (3-0-0).

ENGL 603 Children's Literature
★6 (3-0-0).

ENGL 610 Old English Literature
★6 (3-0-0).

ENGL 611 Studies in Old English Literature
★3 (either term, 3-0-0).

ENGL 614 Middle English Literature
★6 (3-0-0).

ENGL 615 Studies in Middle-English Literature
★3 (either term, 3-0-0).

ENGL 616 Chaucer
★6 (3-0-0).

ENGL 628 Medieval Drama
★6 (3-0-0).

ENGL 634 Renaissance Literature
★6 (3-0-0).

ENGL 635 Studies in Renaissance Literature
★3 (either term, 3-0-0).

ENGL 640 Shakespeare
★6 (3-0-0).

ENGL 641 Elizabethan and Jacobean Drama
★6 (3-0-0).

ENGL 646 Seventeenth-Century Poetry and Prose
★6 (3-0-0).

ENGL 647 Studies in Seventeenth-Century Literature
★3 (either term, 3-0-0).

ENGL 652 Milton
★6 (3-0-0).

GL 654 Restoration and Eighteenth-Century ama
(3-0-0).

GL 658 Restoration and Eighteenth-Century erature
(3-0-0).

GL 659 Studies in Restoration and Eighteenth-ntury Literature
(either term, 3-0-0).

GL 660 The Eighteenth-Century Novel
(3-0-0).

GL 662 The Romantic Novel
(3-0-0).

GL 663 Romantic Literature
(3-0-0).

GL 664 Romantic Poetry
(3-0-0).

GL 665 Studies in Romantic Literature
(either term, 3-0-0).

GL 670 Currents of Thought in English Literature ce 1790
(3-0-0).

GL 671 Victorian Poetry
(3-0-0).

GL 672 The Victorian Novel
(3-0-0).

GL 673 Studies in Victorian Literature
(either term, 3-0-0).

GL 674 Commonwealth Literature in English
(3-0-0).

GL 676 The Twentieth-Century Novel
(3-0-0).

GL 678 Twentieth-Century Prose
(3-0-0).

GL 679 Studies in Twentieth-Century Literature
(either term, 3-0-0).

GL 682 Twentieth-Century Poetry
(3-0-0).

GL 684 Twentieth-Century Drama
(3-0-0).

GL 690 Women Writers in English
(3-0-0).

GL 692 Technique of the Novel
(3-0-0).

GL 693 Studies in Literary Genres
(either term, 3-0-0).

GL 694 Studies in Literary Techniques
(either term, 3-0-0).

GL 695 Studies in Literary Themes
(either term, 3-0-0).

GL 696 Studies in Individual Authors
(either term, 3-0-0).

4.29 Entomology

partment of Entomology
Earth Sciences Building
versity of Alberta
nonton, Alberta T6G 2E3

4.29.1 General Information

The Department of Entomology offers programs leading the degrees of MSc and PhD. Laboratory space is ilable for about 18 students. A broad range of facilities research in insect biology is available including the ckland Museum, two scanning electron microscopes, trolled environment chambers, and laboratories for chemistry, gel electrophoresis, histology, trophysiology, and analytical chemistry. The Depart-nt's George Lake Field Site, about 80 km northwest of nonton, provides accomodation and facilities for field dy of freshwater and terrestrial insects. Strong ties are ntained with both the Faculty of Agriculture and Forestry the Faculty of Science. This provides an excellent ironment for research in basic entomology, agricultural omology and forest entomology.

The Department is especially interested in receiving lications from students wishing to work on: comparative and developmental aspects of morphology, systematics and natural history of most groups of insects, but ecially Thysanoptera, Gerridae (Hemiptera), and ulliidae (Diptera); physiology of chemosensory systems; ect-plant relationships of Chrysomelidae (Coleoptera); siology and genetics of tsetse flies; insect pathology; experimental analysis of species interactions in freshwater ponds; and general ecology and behavior of insects of forest and prairie.

Independent research is strongly encouraged, and prospective students are invited to present research proposals at the time of application. Inquiries may be addressed, at any time, to individual faculty members or to the Chair.

Entrance Requirements:

The Department normally does not accept students with an overall grade point average of less than 6.5 in their undergraduate work at the University of Alberta, or an equivalent qualification from a recognized institution. Where applicable, a TOEFL score of 550 is required (see §202.2.2).

Financial Assistance:

Financial assistance is available from several sources and is awarded on an individual basis according to merit. Acceptance does not imply that financial assistance is available, but a clear statement regarding personal financial support will be given at the time of acceptance. Support for research is the responsibility of the supervisor and the student.

204.29.2 The Degree of MSc

Program Requirements:

The primary requirement is a successfully defended thesis on an original research topic. Courses will depend on the area of specialization and the undergraduate background of the student. Normally, an MSc student takes no less than 12 units of course weight in addition to the graduate seminar (ENT 601/602).

There is no language requirement other than English.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MSc will vary with the individual candidate; however, a minimum of two years is normally required.

204.29.3 The Degree of PhD

Program Requirements:

The primary requirement is a successfully defended thesis on an original research topic. Courses will depend on the area of specialization and the student's background. The graduate seminar ENT 601/602 is a required course; additional courses will usually be required. Normally, a PhD student takes no less than 12 units of course weight during the program.

There is no language requirement other than English.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of three years is normally required.

204.29.4 Undergraduate Courses

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
ENT 400	ENT 300	ENT 421	ENT 321
ENT 401	ENT 301	ENT 470	ENT 370
ENT 408	ENT 308	ENT 471	ENT 371
ENT 417	ENT 317	ENT 560	ENT 460
ENT 419	ENT 319		

The following may be taken for graduate credit:

ENT 300 Project in Basic Entomology
★6 (0-1s-6). Individual study. Provides students with an opportunity to pursue an area of interest in detail. This is accomplished through guided reading, discussions with a faculty member and usually conducting a limited research project. Students must have the agreement of at least one faculty member who will act as supervisor for the course. As the project may require summer collecting or field work, students are strongly encouraged to find a faculty member who agrees to supervise their work, at least six months prior to enrolling in the course. Prerequisite: Any three units of course weight in Entomology at the 200-level or higher.

ENT 301 Project in Basic Entomology
★3 (either term, 0-1s-6). Individual study. Provides students with the opportunity to investigate through guided reading and discussion with a faculty member of their choice, the literature on one or more topics in basic entomology. According to circumstances and inclination, limited experimental work might be undertaken. Prerequisite: Any three units of course weight in Entomology at the 200-level or higher.

ENT 308 Principles of Insect Pest Management
★3 (first term, 3-0-3). Application of ecological principles and pest management tactics in development of integrated control strategies. Biological characteristics of pests and use of population models are emphasized. Economic considerations in pest management. Term paper required. Prerequisite: Any three units of course weight in Entomology at the 200-level or higher, an Introductory course in ecology, a course in Computing Science, and a course in Statistics.

ENT 317 Comparative Morphology
★3 (first term, 3-0-3). Comparative morphology of the major orders of insects and the evolution of some of their structures. Prerequisite: ZOOL 252 and 253.

ENT 319 Insect Development
★3 (second term, 3-0-3). Reproduction, embryonic and postembryonic development in insects. Prerequisite: BIOL 202 or ENT 317.

ENT 321 Insect Function
★3 (second term, 3-1s-3). Life processes at the molecular, cellular, and organ levels, emphasizing those characteristics of insects and their relatives. Prerequisite: CHEM 160 and six units of course weight in Entomology and/or Zoology at the 200-level or higher.

ENT 370 Project in Applied Entomology
★6 (0-1s-6). Individual study. Provides student with an opportunity to pursue an area of interest in detail. This is accomplished through guided reading, discussions with a faculty member and usually conducting a limited research project. Students must have the agreement of at least one faculty member who will act as supervisor for the course. As the project may require summer collecting or field work, students are strongly encouraged to find a faculty member who agrees to supervise their work, at least six months prior to enrolling in the course. Prerequisite: Three units of course weight in Entomology at the 200-level or higher.

ENT 371 Project in Applied Entomology
★3 (either term, 0-1s-6). Individual study. Provides students with the opportunity to investigate through guided reading and discussion with a faculty member of their choice, the literature on one or more topics in applied entomology. According to circumstances and inclinations, limited experimental work might be undertaken. Prerequisite: Three units of course weight in Entomology at the 200-level or higher.

ENT 427 Insect Taxonomy
★3 (second term, 2-0-6). The higher taxa of insects and their relationships. Practice in identification. Prerequisite: ENT 317.

ENT 460 Insect Ecology
★3 (first term, 2-0-4). Relationships of insects to their environment. Community interactions. Laboratory will consist of field trips. Prerequisite: ZOOL 331 or ENT 308 and three units of course weight of animal ecology.

204.29.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis

ENT 527 Insect Taxonomy
★3 (second term, 3-0-3). Literature of insect taxonomy. Principles and procedures. Speciation, phylogeny and zoogeography. Preparation of taxonomic papers. Prerequisite: Consent of instructor; ENT 427 recommended.

ENT 561 Advanced Insect Ecology
★3 (second term, 2-0-4). Behavioral aspects of insect ecology. Responses of insects to the biological and physical environment. Circadian activity rhythms. Prerequisite: ENT 460.

ENT 601 Seminar
★3 (first term, 0-2s-0). Required of all graduate students in each year.

ENT 602 Seminar
★3 (second term, 0-2s-0). Required of all graduate students in each year.

ENT 610 Project in Insect Morphology and Histology
★6 (0-1s-6). Individual study. Guided reading and short research project. Prerequisite: Consent of instructor.

ENT 621 Project in Insect Taxonomy
★6 (0-1s-6). Individual study. Guided reading and short research project. Prerequisite: Consent of instructor.

ENT 650 Project in Insect Physiology
★6 (0-1s-6). Individual study. Guided reading and short research project. Prerequisite: ENT 321 and consent of instructor.

ENT 660 Project in Insect Ecology
★6 (0-1s-6). Individual study. Guided reading and short research project. Prerequisite: ENT 460 or 561 recommended.

ENT 670 Project in Insect Toxicology
★6 (0-1s-6). Individual study. Guided reading and short research project. Prerequisite: Consent of instructor.

ENT 680 Project in Forest Entomology
★6 (0-1s-6). Individual study. Guided reading and short research project. Prerequisite: ENT 280 recommended.

ENT 692 Project in Medical Entomology
★6 (0-1s-6). Individual study. Guided reading and short research project. Prerequisite: Consent of instructor.

204.30 Family Studies

Department of Family Studies
3-38 Assiniboia Hall
University of Alberta
Edmonton, Alberta T6G 2E7

204.30.1 General Information

The Department of Family Studies offers Master of Science programs in general family studies, family life education, and consumer studies. Students complete the required course work and theoretical- or research-oriented thesis.

Students come from a variety of academic and career backgrounds and, upon graduation, have taken employment in a wide range of careers in social service agencies, government, research, and teaching.

Entrance Requirements:

Candidates should hold a four-year Bachelor's degree. A candidate proceeding from a program in a completely different field may be admitted as a qualifying student. Students must also meet the requirements of the Faculty of Graduate Studies and Research. A minimum grade point average of 7 (on a 9-point scale) in the last two years of the student's undergraduate program is required.

Where applicable, candidates must obtain a minimum TOEFL score of 580 before official admission will be considered (see §202.2.2).

Financial Assistance:

Limited research and teaching assistantships are available. Full-time appointments require twelve hours of work per week. Regular tuition fees must be paid. Some students are supported on professors' research grants.

204.30.2 The Degree of MSc

Program Requirements:

All MSc students must complete the research and theory component plus courses in their specialization. Many courses have prerequisites as noted in the calendar.

Research and Theory: FAM 610, 611, 612, six units of course weight in Statistics at the 400-, 500-, or 600-level and a thesis.

a) General Family Studies: FAM 310, 614, SOC 578 and one option.

b) Family Life Education: FAM 680, 613, 681 and one option.

c) Consumer Studies: FAM 630, remainder of program to be designed in conjunction with adviser.

Elective courses in Marriage and Family Therapy: EDPSY 511, 532, 533, 535. These courses are available by special permission to a limited number of students and may be taken only after completion of the required courses. Students planning to take the family counselling courses should be aware that Family Studies does not have a Family Therapy Program and graduation with an MSc in Family Studies does not result in AAMFT certification or licensure as a psychologist. The Department has an agreement with the Department of Educational Psychology whereby two Family Studies students each year may request entrance into their counselling courses. Educational Psychology grants the final acceptance into these courses.

There is a residence requirement of two, four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MSc will vary with the individual candidate; however, a minimum of two years is normally required.

204.30.3 Undergraduate Courses

The following table lists renumbered undergraduate courses effective 1991-92:

Old	New	Old	New
FAM 431	FAM 321	FAM 444	FAM 480
FAM 440	FAM 430	FAM 445	FAM 481
FAM 441	FAM 420	FAM 448	FAM 310
FAM 442	FAM 410	FAM 450	FAM 330
FAM 443	FAM 380	FAM 452	FAM 412

FAM 310 Understanding Family Communication
★3 (either term, 3-0-0). The synthesis of knowledge of communication with knowledge of family relationships and the application of that combination to the student's experience. Emphasis is placed on the effect of communication on individual behavior and family patterns. Prerequisite: FAM 110 or 211 or SOC 271 or consent of instructor.

FAM 321 Development During School Years and Adolescence
★3 (either term, 3-0-0). Advanced study of child development in the family during school age and adolescent years. Major emphasis will be placed on integrating basic theory and research with practical issues facing children and families. Students will be required to perform 10-15 hours of observation within an appropriate real-world setting. Prerequisite: FAM 320 or 343 or PSYCO 223 or EDPSY 163 or consent of instructor. Not open to students who have taken FAM 347. (Formerly FAM 347).

FAM 330 Family Finance
★3 (first term, 2-1.5s-0). Principles of money management applied to family income and expenditure. Budgeting and management of savings will be important. Special emphasis will be placed on the management of credit, investment, insurance, housing. The particular needs of low income money management will be stressed. Prerequisite: FAM 230 and ECON 101/102 or consent of instructor.

FAM 380 Issues in Family Life Education
★3 (first term, 3-0-0). An introduction to family life education as an applied area of family studies. A review of relevant literature in the field as well as study and practice in program planning and evaluation for community family life education programs. Prerequisite: FAM 110 or 211 or SOC 271.

FAM 410 The Aging Family: Needs and Resources
★3 (either term, 3-0-0). An exploration of the interpersonal, personal and physical needs of the aging family throughout the latter stages of the family life cycle beginning at the empty nest stage. Course content will include an assessment of services to older families in Alberta. (Formerly FAM 433).

FAM 411 Family Policy
★3 (either term, 3-0-0). Introduction to the concepts of policy development and policy analysis with an examination of the impact of current policies on the Canadian family. Prerequisite: FAM 110 or FAM 211 or SOC 271. Offered as staffing and resources permit.

FAM 412 Family and Special Needs Children
★3 (either term, 3-0-0). The focus of this course in on the impact of a special needs child on family functioning and family adjustment. The socio-psychological literature will provide an overview of both theoretical and practical issues with respect to family functioning under various conditions. Families with special needs will be compared to other families. Note: To be offered as staffing will allow. Formerly FAM 442 (Family and Special Needs Children).

FAM 420 The Aging Individual
★3 (first term, 3-0-0). An introduction to the normal aging process of the individual beginning at late middle age. The older person's developmental needs and community resources to meet these needs will be emphasized. Prerequisite: FAM 321 or 343 or PYSCO 353 or EDPSY 263 or consent of department .

FAM 430 Consumer Problems
★3 (either term, 3-0-0). An analysis of problems faced by the family as consumer, within the framework of the economic, sociological, psychological and legal factors which create these problems. Sources of information and aid for the consumer. Prerequisite: ECON 101/102 or completion of an approved economics module available from the campus bookstore. This course will only be offered in alternate years. The prerequisite courses must be completed or the module completed and evaluated prior to the start of the term in which the student is registered to take the course.

FAM 480 Methods in Human Service Agencies
★3 (first term, 1.5-0-3). Methods in the development of administrative and interpersonal skills in human service agencies. Open to senior Family Studies majors; other Home Economics majors, with consent of instructor.

FAM 481 Practicum in Family Services
★6 (second term, 0-1.5s-16). Students will be placed in one of a variety of family related agencies for two full days per week during the second term. In addition, attendance at one seminar per week is required. Prerequisite: FAM 480. Note: Open only to senior Family Studies majors. Must be taken during the same year as FAM 480.

204.30.4 Graduate Courses

The following table lists renumbered graduate cou effective 1991-92:

Old	New	Old	New
FAM 500	FAM 610	FAM 559	FAM 551
FAM 527	FAM 615	FAM 560	FAM 651
FAM 540	FAM 630	FAM 600	FAM 612
FAM 541	FAM 620	FAM 645	FAM 616
FAM 543	FAM 680	FAM 649	FAM 650
FAM 547	FAM 681	FAM 659	FAM 613
FAM 551	FAM 614	FAM 660	FAM 652
FAM 553	FAM 611		

FAM 551 Independent Study I
★3 (either term, 0-0-6). Independent study of topic family studies including independent laboratory an brary research. Prerequisite: Students must rec consent from instructor prior to registration.

FAM 610 Introduction to Family Studies
★3 (first term, 0-3s-0). A review of the basic content philosophy of the study of the family from the partic emphasis of the Family Studies Department. Gradu students from other faculties admitted with conser instructor.

FAM 611 Applied Theory and Research in Marria and Family
★3 (first term, 0-3s-0). The consideration of theor marriage and the family as it relates to family prac and research in Family Studies. Prerequisite or corequi FAM 610 or consent of the intructor.

FAM 612 Seminar: Methods in Family Studies Research
★3 (second term, 0-3s-0). An investigation of fa research methodology and the development of a search proposal for the student's thesis. Prerequisit graduate level statistics course, FAM 610 and 611.

FAM 613 Graduate Practicum in Family Studies
★3 (either term, 0-0-6). Selected practicum placem to integrate theory and practice in a variety of fa agencies. Prerequisite: Consent of supervisor and department.

FAM 614 Seminar in Family Crisis
★3 (either term, 0-3s-0). An analysis of the proces involved in family crisis. Family disorganization, r ganization, and change associated with various cr are considered. Prerequisite: FAM 110 or 211 or S 271 or consent of the instructor.

FAM 615 The Family in Contemporary Society
★3 (second term, 0-3s-0). An interdisciplinary stud the family in modern western society. The nature of relationship between the family system and sele systems in society will be considered. Prerequisite: F 110, or 211 or SOC 271 or consent of instructor.

FAM 616 Seminar in Applied Theory in Marriage and Family Counselling
★3 (either term, 0-3s-0). Selected theories in marri and family counselling are examined in terms of t their underlying assumptions and their general appl bility in promoting effective counselling outcomes. permission of instructor only.

FAM 620 Seminar in Human Sexuality
★3 (either term, 0-3s-0). Emphasis on socio-psyc cultural factors in development of human sexuality, consideration given to research findings and their pra cal application, i.e., sex education. Prerequisite: F 322 or equivalent.

FAM 630 Seminar: Consumer Studies
★3 (either term, 0-3s-0). Examination of the resea and theory related to consumer behavior, the applica of these to consumer problems and the implications consumer education. Prerequisite: FAM 430 or cons of the instructor.

FAM 650 Seminar in Family Studies: Selected Topics
★3 (either term, 0-3s-0). This course will be offered staff and time permit. By permission of instructor on

FAM 651 Independent Study II
★3 (either term, 0-0-6).

FAM 652 Independent Study III
★3 (either term, 0-0-6).

FAM 680 Seminar in Family Life Education
★3 (either term, 0-3s-0). Examination and analysi the basic issues facing family life education and edu tors in the various settings of home, school and com nity. Prerequisite: FAM 380 or equivalent.

FAM 681 Family Intervention Program Developm and Evaluation
★3 (either term, 0-3s-0). This course is designed graduate students whose professional goals are in area of family life education. It will focus on the des implementation and evaluation of educational inter tion programs such as marriage enrichment, fa

richment, parent education. Emphasis will be educa-nal, rather than remedial. Prerequisite: FAM 680 or nsent of instructor. (A practicum experience may be anged to be taken in conjunction with this course der FAM 613). To be offered as staffing allows.

me Economics

EC 500 Perspectives in Home Economics/Human ology
(either term, 3-0-0).

EC 501 Independent Project in Home Economics
(either term, 0-0-6). Prerequisite: Graduate standing.

EC 600 Home Economics Graduate Seminar
(either term, 0-1s-0).Graduate students may register to three times for a maximum of three credits.

04.30.5 Reserve List

e following table lists renumbered course effective 91-92:

d	New
M 446	FAM 482
M 449	FAM 550
M 460	FAM 413

The Department is unable to offer the following urses regularly. Students should consult the Depart-nt for further information.

M 413 Family and Consumer Law
(either term, 3-0-0). An exploration of family and nsumer law from a user's perspective. (To be taught cooperation with the Faculty of Law.) This course will offered during intersession only.

M 482 Practicum in Program Planning
(either term, 3-0-3). Application of program planning d evaluation principles in actual program planning uation. (To be offered as faculty resources permit). erequisite: FAM 380.

M 550 Family and Human Development: Selected pics
(either term, 3-0-0). Students may enrol in this urse more than once provided that each time it is en the topic is different. Note: To be offered as ffing allows.

04.31 Food Science

partment of Food Science
06 Agriculture-Forestry Building
iversity of Alberta
monton, Alberta T6G 2P5

04.31.1 General Information

The Department of Food Science offers programs ading to the degrees of MSc, MAg, MEng (food process gineering), and PhD.

The fields of study open for research in the Department food science, food chemistry, food microbiology, food ocessing, and food process engineering. Prospective ndidates should consult the Chair of the Department garding research facilities and course requirements.

trance Requirements:

The Department's minimum admission requirements an undergraduate degree with an average of 6.5 in the st two years of undergraduate work (or graduate work) at University of Alberta, or an equivalent qualification m a recognized institution, and a TOEFL score of 550 ere applicable (see §202.2.2).

nancial Assistance:

A limited number of graduate assistantships and monstratorships are available.

04.31.2 The Degree of MSc

ogram Requirements:

The minimum course load in the MSc program is 12 its of course weight as recommended by the supervisor. addition, FD SC 600 and 601 and a thesis are required all students in MSc programs.

There is no language requirement for the degree of Sc.

The minimum period of residence is two four-month rms of full-time attendance at the University of Alberta.

ngth of Program:

The time required to complete the program will vary cording to the previous training of the applicant and the ture of the research undertaken; however, a minimum of months is normally required.

204.31.3 The Degree of MAg

Program Requirements:

Normally, 30 untis of course weight taken for graduate credit and a project equivalent to at least three units of course weight are required for the MAg degree.

No language other than English is required.

The minimum period of residence is one four-month term of full-time attendance at the University of Alberta. Applicants normally are expected to have completed three years of satisfactory professional experience.

Length of Program:

The time required to complete the MAg program will vary; however, a minimum of 10 months is normally required.

204.31.4 The Degree of MEng

To qualify for admission to the MEng program candidates must possess a bachelor's degree in engineering.

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student; however, the MEng program normally consists of 30 units of course weight and a project equivalent to at least three units of course weight.

No language other than English is required.

The minimum period of residence is one four-month term of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MEng will vary with the individual candidate; however, a minimum of 10 months of study and research is normally required.

204.31.5 The Degree of PhD

Program Requirements:

The PhD program normally consists of FD SC 600, 601, a thesis and such course work as is recommended by the supervisor.

There is no language requirement for the PhD.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary with the individual candidate; however, a minimum of three years is normally required.

204.31.6 Undergraduate Courses

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
DAIRY 400	DAIRY 300	FD SC 463	FD SC 363
FD SC 402	FD SC 302	FD SC 471	FD SC 372
FD SC 453	FD SC 353	FD SC 502	FD SC 402
FD SC 454	FD SC 354	FD SC 504	FD SC 404
FD SC 461	FD SC 361		

The following may be taken for graduate credit:

DAIRY 300 Fundamentals of Dairy Science
★3 (first term, 3-2s-0). Physiology of lactation. Biosynthesis and properties of milk components. Physical, chemical, microbiological, technological and nutritional aspects of milk quality. Prerequisite: Six units of course weight in biochemistry.

FD SC 302 Quality Control
★3 (second term, 3-0-3). Statistical methods in quality control, sampling plans, objective and subjective measurements of food quality attributes. Formerly called FD SC 402. Prerequisite: Three units of course weight in introductory statistics (STAT 236 recommended).

FD SC 353 Unit Operations in Food Processing I
★3 (first term, 3-0-3). Processes used in food manufacturing. Size reduction, mixing, emulsification, separation, extraction, distillation, sedimentation, centrifugation, crystallization and filtration. Prerequisite: FD SC 283.

FD SC 354 Unit Operations in Food Processing II
★3 (second term, 3-0-3). Processes used in food preservation. Dehydration, refrigeration and freezing, sterilization and canning, irradiation. Effect of processing on food properties. Prerequisite: FD SC 283.

FD SC 361 Food Microbiology
★3 (first term, 3-0-3). Environmental factors affecting the growth, activity and destruction of microorganisms in food. Sanitizing and disinfection. Food-borne infections and intoxications. Open only to students registered in the Faculties of Agriculture and Forestry or Home Economics; or students registered in Microbiology Specialization and Honors programs; or Medical Laboratory Science. Given concurrently with FD SC 363, not open to students with credit in FD SC 363. Prerequisite: MICRB 193.

FD SC 363 Food Microbiology
★3 (first term, 3-0-0). Environmental factors affecting the growth, activity and destruction of microorganisms in food. Sanitizing and disinfection. Food-borne infections and intoxications. Given concurrently with FD SC 361, not open to students with credit in FD SC 361. Prerequisite: MICRB 193.

FD SC 372 Food Chemistry I
★3 (first term, 3-1s-0). Chemistry and biochemistry of food constituents. Usually taken concurrently with FD SC 371. Prerequisite: CHEM 100 or 104; and 160 or 260.

FD SC 402 Brewing and Enology
★3 (second term, 3-1s-0). Biological, biochemical, chemical and technical aspects of malting, brewing, winemaking and allied industries. Offered in alternate years. Formerly called FD SC 502. Prerequisite: BIOCH 301 and MICRB 193.

DAIRY 403 Processing of Milk Products
★3 (first term, 3-1s-0). Principles and processes for fluid milk and fluid milk products, including cream, evaporated, dried and concentrated milk. Pasteurization, homogenization, membrane separation, UHT processes. Prerequisite: FD SC 361 and 372.

FD SC 404 Meat and Meat Products
★3 (second term, 3-0-3/2). Biological, biochemical, chemical, and technological aspects of the processing of meat and meat products. Offered in alternate years. Prerequisite: MICRB 101 or 193 and BIOCH 301.

FD SC 405 Processing and Storage of Vegetables
★3 (first term, 3-0-3/2). Biological, biochemical, chemical, and technological aspects of the processing of fruits and vegetables. Offered in alternate years. Prerequisite: Three units of course weight in introductory biochemistry.

FD SC 406 Processing and Storage of Cereals and Oilseeds
★3 (first term, 3-0-3/2). Biological, biochemical, chemical, and technological aspects of the processing of cereals and oilseeds. Offered in alternate years. Prerequisite: Three units of course weight in introductory biochemistry.

DAIRY 413 Processing of Dairy Products
★3 (second term, 3-0-3). Principles of manufacturing cheese, ice cream, fermented milk, butter. Prerequisite: DAIRY 403.

FD SC 455 Special Project/Research
★6 (0-1s-0;0-1s-10). Directed laboratory studies under supervision of staff members. Note: Primarily for senior specialization students. Prerequisite: Consent of department.

FD SC 472 Food Chemistry II
★3 (second term, 3-0-0). A continuation of FD SC 372. Prerequisite: FD SC 372.

204.31.7 Graduate Courses

THES 900 Thesis
THES 999 Thesis
FD SC 900 ★3 Directed Research Project

FD SC 554 Food Processing Project
★3 (either term, 1-0-5). Laboratory and pilot plant studies of selected food preservation techniques. Evaluation of effects of processing on food characteristics. Prerequisite: Consent of instructor.

FD SC 573 Food Analysis
★3 (second term, 3-0-3). Classical and modern methods for the chemical analysis of foods and food ingredients. Prerequisite: Consent of instructor.

FD SC 587 Food Engineering Laboratory
★3 (either term, 1-0-3). Experiments in Food Engineering. Prerequisite: Consent of instructor.

FD SC 588 Heat and Mass Transfer in Food Engineering
★3 (first term, 3-1s-0). Basic heat and mass transfer theories in solid and liquid foods. Application to selected unit operations. Prerequisite: Consent of instructor.

FD SC 600 Seminar
★1 (0-1s-0). Required during each year of all graduate students. A full-session course; may be offered over a single-term.

FD SC 601 Topics in Food Science
★1 (either term, 0-1s-0). A lecture and discussion course on topics of current interest in Food Science. Required each year of all graduate students.

FD SC 602 Advances in Food Science
★3 (either term, 3-1s-0). A required course for Food Science graduate students that emphasizes current research developments in the principal disciplines; food

chemistry, food engineering, food processing, and food microbiology, with emphasis on food safety and government regulations. Prerequisite: Consent of department.

FD SC 660 Advanced Applied Microbiology
★3 (either term, 3-0-0). A lecture and discussion course on topics of current interest in applied microbiology with readings of original literature. Prerequisite: Consent of instructor.

204.31.8 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department and/or the University timetable.

FD SC 566 Advanced Food Microbiology
★3 (second term, 1-0-4). Advanced techniques and recent developments in food microbiology. Emphasis on epidemiology, etiology and control of food and waterborne illness. Prerequisite: FD SC 361.

FD SC 586 Food Process Evaluation
★3 (first term, 3-3s-0). In-depth study of optimization and cost analysis of selected food processes. Prerequisite: Consent of instructor.

FD SC 671 Advanced Food Chemistry
★3 (either term, 3-0-0). Selected topics in food chemistry. Note: A student may obtain credit in this course more than once. Prerequisite: Consent of instructor.

204.32 Foods and Nutrition

Department of Foods and Nutrition
308 Home Economics Building
University of Alberta
Edmonton, Alberta T6G 2M8

204.32.1 General Information

The Department of Foods and Nutrition offers graduate work leading to the degree of MSc in foods, nutrition, and foods and nutrition.

The Foods and Nutrition Department encompasses excellent research facilities for the testing of sensory apsects of food, and for conducting human metabolism studies and small animal research. The facilities include food laboratories, a computerized sensory panel room, analytical laboratories, and a metabolic research unit. The laboratories are well-equipped with instrumentation for the evaluation of food quality and for biochemical assays and analyses. A food microbiological laboratory is fully accessible. The library facilities in all areas of specialization are excellent.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 560 where applicable (see §202.2.2). An applicant proceeding from either a three-year program in a related field or a four-year program in a different field may be admitted as a qualifying student.

Financial Assistance:

A number of teaching and research assistantships are available for well qualified applicants.

204.32.2 The Degree of MSc

Program Requirements:

In the Department of Foods and Nutrition there are four major areas of study:
1) Food: its quality and safety
2) Sensory methodology and taste perception studies
3) Nutrition and metabolism
4) Nutrition in health and disease

Other emphasis may be planned on an individual basis, depending on the interests and background of a student and the time and expertise of staff. Programs of study include course work (with a minimum of 18 units of course weight required), the evaluation of pertinent literature through written and oral presentations and the selection, planning, writing, and oral defence of a research problem.

There is a residence requirement of two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MSc will vary with the individual candidate; however, a minimum of two years is normally required.

204.32.3 Undergraduate Courses

The following table lists renumbered courses effective 1991-92:

Old	New
FDN 406	FDN 468
FDN 445	FDN 502
FDN 466	FDN 503

FD NU 427 Consumer Acceptance of Foods
★3 (first term, 3-0-3). Factors influencing consumer acceptance of foods with special reference to food safety, quality control, toxicological implications of intentional and incidental food additives and implications of product development for the consumer. Prerequisite: FD NU 320 and 321 or consent of instructor.

FD NU 429 Experimental Foods
★3 (first term, 3-0-3). Application of the experimental method to food problems. Sensory and objective evaluation of food properties. Development of an individual research problem. Prerequisite: FD NU 320 and 321 or consent of instructor.

FD NU 461 Foodservice Systems Management
★3 (second term, 3-0-4). Operational techniques and special problems encountered during the preparation and service of food in quantity, in both commercial operations and foodservice establishments. The laboratory sessions will provide experience in quantity food production. Prerequisite: FD NU 320 and FD NU 321.

FD NU 463 Foodservice Facilities: Planning and Design
★3 (first term, 3-0-0). The systems approach in planning foodservice facilities. The interrelationship between the scientific approach, the management approach and quantity food production technique in planning and designing foodservice systems. Prerequisite: FD NU 461.

FD NU 465 Nutrition
★3 (either term, 3-0-3). The principles of nutrition applied to feeding of individuals of various ages under normal conditions with emphasis on vitamins and minerals. Prerequisite: FD NU 364. For FD NU majors only.

FD NU 468 Clinical Dietetics
★3 (second term, 3-0-3). Basic principles of nutrition in clinical situations. The role of diet in the management of various diseases. The laboratory sessions include practical experience in interviewing patients. Prerequisite: FD NU 364. Corequisite: FD NU 465 or consent of instructor.

204.32.4 Graduate Courses

THES 900 Thesis
THES 999 Thesis

FD NU 502 Coordinated Practical Program
★3 (second term, 0-1s-8). Supervised practical experience in selected areas of interest. Note: For senior foods and nutrition majors.

FD NU 503 Project Course
★3 (either term, 0-0-6). Advanced library and laboratory study with a written report on selected problems in human nutrition or foods. Prerequisite: Consent of instructor.

FD NU 504 Experimental Techniques
★3 (either term, 0-0-6). Application of chemical methods and bioassays to research in nutrition. Prerequisite: CHEM 212.

FD NU 506 Advanced Clinical Dietetics
★3 (first term, 3-0-3). The principles of diet therapy in selected areas of current interest. Emphasis on case studies, research and practical problems in diet therapy. Prerequisite: FD NU 468.

FD NU 507 Nutrition in the Community
★3 (second term, 3-0-3). Examination of nutrition problems in contemporary communities. The application of basic concepts of food and nutrition to community nutrition problems. Discussion of nutrition programs and resources. Prerequisite: FD NU 364 and 465.

FD NU 508 Advanced Nutrition
★3 (first term, 3-0-0). A lecture and reading course. Prerequisite: FD NU 364 and 465 or consent of instructor.

FD NU 509 Advanced Nutrition
★3 (second term, 3-0-0). A lecture and reading course. Prerequisite: FD NU 364 and 465 or consent of instructor.

FD NU 510 Food Safety and Hygiene
★3 (second term, 3-0-0). The rationale of Public Health, Consumer and Corporate Affairs and Food and Drug regulations related to Foods and Nutrition, with special emphasis on institution management. Care and handling of foods in the retail store, institution and the home. Prerequisite: FD SC 461 or consent of instructor.

FD NU 511 Advanced Foods
★3 (second term, 3-0-0). Quality characteristics of foods. Current scientific information about foods used in the home and institutions with emphasis on quality factors such as color, texture and flavor. Prerequisite: FD NU 320, 321, and BIOCH 301 or consent of instructor.

FD NU 512 Selected Topics: (In Foods and Nutrition)
★3 (either term, 3-0-0). Students may enroll in this course more than once provided that each time it is taken the topic is different.

FD NU 514 Current Issues in Foods and Nutrition I
★1 (either term, 0-1s-0). Prerequisite: Varies with offering. Note: The combination of all three of FD NU 514, 515, 516 constitutes the equivalent of a single term course of full weight.

FD NU 515 Current Issues in Foods and Nutrition II
★1 (either term, 0-1s-0). Prerequisite: Varies with offering. Note: The combination of all three FD NU 514, 515, 516 constitutes the equivalent of a single term course of full weight.

FD NU 516 Current Issues in Foods and Nutrition III
★1 (either term, 0-1s-0). Prerequisite: Varies with offering. Note: The combination of all three of FD NU 514, 515, 516 constitutes the equivalent of a single term course of full weight.

FD NU 600 Foods and Nutrition Seminar
★0 (0-1s-0). Required both terms of all graduate students.

FD NU 602 Research Project in Nutrition or Foods
★3 (either term, 0-0-6).

FD NU 603 Further Research in Nutrition or Foods
★3 (either term, 0-0-6).

Home Economics

H EC 500 Perspectives in Home Economics/Human Ecology
★3 (either term, 3-0-0). Historical and philosphical perspectives about the nature and purpose of home economics/human ecology; exploration of professional issues and alternative modes of professional practice. Restricted to Graduate students only.

H EC 501 Independent Project in Home Economics
★3 (either term, 0-0-6). Independent study of topics in home economics planned by the student in consultation with the instructor. Prerequisite: Graduate standing.

H EC 600 Home Economics Graduate Seminar
★1 (either term, 0-1s-0).Graduate students may register up to three times for a maximum of three credits.

204.33 Forest Science

Department of Forest Science
855 General Services Building
University of Alberta
Edmonton, Alberta T6G 2H1

204.33.1 General Information

The Department of Forest Science offers programs leading to the degrees of Master of Science and Doctor of Philosophy in forest science, as well as a specialization leading to the degree of Master of Science (wildland recreation).

Graduate studies in the Department of Forest Science encompass the broad spectrum of scientific and management applications inherent in wildland resources stewardship. Areas of interest include: forest resource management, forest measurements/biometrics, forest ecology, forest genetics, silviculture, forest biology, forest fire management, forest hydrology, forest harvesting/operations, and wildland recreation and interpretation, conservation biology, tree physiology, social forestry, protected area management, and wildlife management. Inquiries should be directed to the Chair, Department of Forest Science.

Prospective students should note that the forestry program is integrated within the Faculty of Agriculture and Forestry. Opportunities for graduate study are also available in such fields as wood utilization, forest operations, wildlife management, forest entomology, forest pathology, range management, forest economics, and forest soils, in cooperation with the Departments of Agricultural Engineering, Animal Science, Entomology, Plant Science, Rural Economy and Soil Science. Courses and programs of study offered through these departments are listed under their respective headings in this calendar. General inquiries should be sent to the appropriate department chair or to the Chair, Department of Forest Science.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution. However, the Department generally does not accept students with an overall GPA of less than 6.5 in their undergraduate years, with a 7.0 GPA in the last two years at the University of Alberta, or its equivalent. All applicants seeking admission to Forest Science whose native language is not English must obtain

a TOEFL score of 550 or an equivalent score on an approved English Language examination (see §202.2.2). Note: A BSc in forestry or its equivalent is the undergraduate degree normally required for admission; however, programs may be developed for applicants with other qualifications.

Financial Assistance:

Financial assistance is available for some students; assistance is awarded to applicants on the basis of merit.

204.33.2 The Degree of MSc

Program Requirements:

Course requirements for the MSc are based on the student's previous training and the anticipated needs in the student's area of specialization. Minimum requirements are 12 units of course weight acceptable for graduate credit. Courses may be drawn from those listed for the Department of Forest Science below, and from other departments within the University. Students in the MSc program also must participate in the forestry seminar (FOR 600) each year and must take an advanced statistics and/or experimental design course.

In addition, candidates for the degree of MSc must prepare an acceptable thesis presenting results of research conducted. Candidates will be examined orally on their thesis results by committees formed according to §203 of this Calendar.

There is no language requirement for the degree of MSc.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

Normally, at least two academic years plus one summer of research are required to complete the MSc.

204.33.3 The Degree of PhD

Program Requirements:

Course requirements for the PhD will be based on the student's previous training and anticipated needs in the student's area of specialization, the total course load being at the discretion of the student's supervisory committee. There is no fixed minimum course requirement for students who hold a master's degree. Students entering the PhD program will be expected to complete at least 12 units of course weight that are acceptable for graduate credit.

Students in the PhD program must pass an oral candidacy exam, supervised by a committee formed according to Faculty of Graduate Studies and Research regulations. The exam is generally scheduled when course work has been completed.

All candidates for the PhD must prepare an acceptable thesis presenting the results of their research. Candidates will be examined orally on their thesis results by committees formed according to calendar §203.

No language other than English is required for the PhD.

The minimum residence requirements are three academic years of study and research for a student with a bachelor's degree, and two academic years of study and research for those with a master's degree.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of three years is normally required.

204.33.4 Undergraduate Courses

The following table lists renumbered undergraduate courses effective 1991-92:

Old	New	Old	New
FOR 411	FOR 433	FOR 450	FOR 350
FOR 412	FOR 439	FOR 451	FOR 405
FOR 415	FOR 420	FOR 452	FOR 450
FOR 417	FOR 427	FOR 454	FOR 401
FOR 422	FOR 490	INT D 470	INT D 460
FOR 427	FOR 421		

The following may be taken for graduate credit:

FOR 350 Forest and Range Hydrology
★3 (first term, 3-0-3). The role of forest and range vegetation in determining the hydrologic function of a watershed; natural storage phenomena of the forest and surface and ways it can be modified; field trips. Prerequisite: FOR 314.

FOR 401 Special Topics in Forest Resources
★3 (either term, 3-0-0). Studies in the multiple aspects of forest management, including wildlife, recreation, watershed, range and timber. Prerequisite: Consent of instructor.

FOR 405 Intermediate Forest Problems
★3 (either term, 0-3s-0). Individual study. Problems in specialized areas of forest science. Prerequisite: Consent of instructor.

FOR 410 Principles of Remote Sensing
★3 (first term, 3-0-3). Basic principles of spectral reflectance and emittance, and atmospheric effects as they apply to the acquisition and analysis of imagery; application to renewable resource inventory and management. Prerequisite: A 300-level course in at least one of the natural sciences. [Soil Science]

FOR 413 Integrated Wildland Resource Assessment
★3 (first term, 3-0-3). An examination of information requirements, inventory procedures, data storage and retrieval systems, and data use for integrated land use planning. Prerequisite: FOR 110.

FOR 420 Advanced Dendrology
★3 (second term, 3-0-0). Studies of woody plant vegetation of the world, especially temperate and boreal regions; evolution of, and genetic relationships among, tree and shrub genera and species; historical development of woody plant vegetation; optional field trip. Prerequisite: Consent of instructor. Offered alternate years.

FOREN 421 Simulation Methods in Forest Engineering
★3 (second term, 3-0-3). Continuous and discrete simulation methods applied to the study of processes in forest operations. Prerequisite: Introductory courses in computing science and calculus. Not open to students with credit in AG EN 421. [Agricultural Engineering]

FOR 421 Tree Physiology
★3 (first term, 3-0-3). Study of physiological processes of forest trees; relationship of environment and structure to function; emphases on growth processes, primary production processes, reproduction, dormancy; influence of silvicultural practices on growth and physiological processes. Prerequisite: Consent of instructor. Offered in alternate years.

FOR 427 Tree Seedling Production
★3 (second term, 3-0-3). Theory and current practice of the production of tree seedlings. Includes discussion of seed collection and handling, seedling ecophysiology in relation to the nursery environment, hardening and storage of container and bare root seedlings. Will include guest speakers and student seminars. Offered alternate years. Prerequisite: Consent of instructor.

FOR 430 Forest Resources Management I
★3 (second term, 3-0-3). Analytical techniques used by renewable resource managers for management of wildland areas for single or multiple outputs; problems of defining optimality when confronted with competing uses and multiple outputs. Prerequisite: CMPUT 251, FOR 210, and FOREC 345.

FOR 431 Forest Resources Management II
★3 (first term, 3-0-3). The use of simulation, mathematical programming, and systems analysis by resource managers as decision-making aids. Application of techniques covered in Forest Resources Management I to case study problems. Prerequisite: FOR 301, 321, and 430.

INT D 432 Forest Administration and Policy
★3 (second term, 2-1s-0). Analysis of how forest resources policies are developed, and criteria for evaluation. Historical review to illustrate how policies and programs evolved as they have. Review of current policy issues. Outline of principles of organization for resource administration. Lectures, student seminars and assigned reading. Prerequisite: Open only to students in final year of their programs. (Offered jointly by the Departments of Forest Science and Rural Economy.) [Forest Science]

FOR 433 Forest Growth and Yield Prediction
★3 (first term, 3-0-3). Selected topics in forest mensuration, regression analysis, growth and yield prediction. Sampling methods, growth models and data management. Prerequisite: FOR 210.

FOREN 435 Advanced Transportation of Forest Products
★3 (second term, 3-0-3). Advanced studies in the methods and systems of movement of wood and wood products. Equipment for primary and secondary transportation of timber. Planning and cost analysis of logging operations and equipment. Forest roads and bridges. Prerequisite: FOREN 335. (Offered jointly by the Departments of Agricultural Engineering and Forest Science.) [Forest Science]

FOR 439 Timber Management Planning
★3 (second term, 2-2s-2). Management of forests with fiber production as the primary objective: decision-making techniques; implementation and control of plans; and integration with other forest uses. Emphasis on timber harvest scheduling techniques. Prerequisite: FOR 430 and 431.

FOREC 445 Forest Production Economics
★3 (second term, 3-0-0). Production principles applied to the use of resources in forestry. Prerequisite: Consent of instructor; FOREC 345 recommended.

FOR 450 Forest Watershed Management
★3 (second term, 3-0-3). Principles and methods involved in managing forest and range land to obtain optimum production and regulation of water yields while maintaining soil stability; watershed management as a component of integrated forest resources management; field trips. Prerequisite: FOR 350. Offered in alternate years.

INT D 460 Heritage Interpretation Field Trip
★3 (either term, 0-2s-6). Extended field trip to examine comparatively the philosophies, approaches and applied methodologies of a diverse range of institutions and agencies engaged in the practice of heritage interpretation. Prerequisite: Consent of instructor. (Offered jointly by the Departments of Forest Science and Recreation and Leisure Studies. [Forest Science]

FOR 462 Wildland Recreation Management
★3 (first term, 3-0-3). Principles and methods of management of National and Provincial Parks, and forest recreational systems; wilderness management; the integration of biological and sociological criteria in park and recreational management. Field trips. Prerequisite: FOR 260.

FOR 463 Wildland Recreation Planning
★3 (second term, 3-0-0). Survey of current principles and practices relevant to the planning of parks, wilderness areas and recreational environments in wildland settings. Emphasis on current case studies. Prerequisite: FOR 260 or 462.

FOR 464 Conservation and Management of Endangered Species
★3 (first term, 3-0-0). Theoretical and applied considerations for maintaining wildlife populations considered endangered, threatened or rare. Global, national and provincial strategies for species conservation. Contributary factors of declines, extinctions, and species recovery. Special reference to forestry practices that can be used to help maintain or improve populations of species of concern. Case studies and field trips. Prerequisite: One of FOR 260, AN SC 350, ZOOL 467.

INT D 467 Methods of Heritage Interpretation
★3 (either term, 3-3s-0). Application of principles of interpretation of natural and historic resources. Focus on management techniques and development of interpretative programs. Case studies and field trip. Prerequisite: Consent of instructor; INT D 466 recommended as complementary. (Offered jointly by the Departments of Forest Science and Recreation and Leisure Studies.) [Forest Science]

FOR 475 Vegetative Reclamation of Forest Lands in Alberta
★3 (second term, 3-0-3). Topics include reclamation legislation, environmental impact statements, and the resource development process in Alberta. Operational implementation of revegetation principles related to reclamation, reclamation machinery, including seed mixture design, ecology of reclamation plants, plant succession on reclaimed sites, and the restoration of native plant communities. Computer assisted retrieval of reclamation information is taught in lecture and lab. Lab exercises cover principles of plant establishment and identification of reclamation plant species. Prerequisite: A course in ecology, FOR 120, FOR 314, and CMPUT 251.

FOR 490 Forest Tree Improvement
★3 (second term, 3-0-3). Application of principles of inheritance as related to trees and in the management of forested lands; natural variation and ecological differentiation of woody plant populations; reproductive biology; methods of tree improvement. Prerequisite: Consent of instructor.

204.33.5 Graduate Courses

The following table lists renumbered graduate courses effective 1991-92:

Old	New	Old	New
FOR 500	FOR 610	FOR 522	FOR 590
FOR 503	FOR 501	FOR 525	FOR 502
FOR 517	FOR 523	FOR 526	FOR 522
FOR 520	FOR 503	FOR 590	FOR 690

THES 900 Thesis
THES 999 Thesis

FOR 501 Special Topics in Forestry
★3 (either term, 3-0-0). Prerequisite: Consent of instructor.

FOR 502 Problems in Forest Ecology
★3 (either term, 0-3s-0). Individual study. Directed study in forest ecology. Prerequisite: Consent of instructor.

FOR 503 Problems in Silviculture
★3 (either term, 0-3s-0). Individual study. Directed study in silviculture. Prerequisite: Consent of instructor.

FOR 522 Advanced Forest Ecology
★3 (first term, 3-0-0). Studies of the ecology of the major forested ecosystems of Canada, particularly composition,

physical and biological factors of importance, variability within regions, silvicultural techniques, management problems; limiting factors, productivity, special adaptations, role of man; term project required. Optional field trip. Prerequisite: Consent of instructor. Offered alternate years.

FOR 523 Advanced Silviculture
★3 (second term, 3-0-3). Various topics including forest tree nursery locations, cycles, stock, types, instrumentation requirements and problems; advanced aspects of silvicultural planning related to integrating silvicultural considerations into woods operations. Two or three field trips may be scheduled for weekends or lab time. Prerequisite: Consent of instructor.

FOR 535 Problems in Forest Resources Management
★3 (either term, 0-3s-0). Individual study. Directed study in forest resources management. Prerequisite: Consent of instructor.

FOR 545 Problems in Forest Fire
★3 (either term, 0-3s-0). Individual study. Directed study in forest fire. Prerequisite: Consent of instructor.

FOREC 545 Economics of Timber Utilization
★3 (second term, 3-0-0). Concerns introduction of wood processing industries into areas of predominantly old growth stock; optimum depletion rates and sustention of yield, development of infrastructure; siting mills; transportation and the pattern of development of wood processing industries; the role of the forest industries in regional development. Prerequisite: Consent of instructor; FOREC 445 recommended. [Rural Economy]

FOR 546 Advanced Fire Ecology
★3 (first term, 3-0-0). The role of fire as an abiotic input in wildland environments. Its effect on plant succession; primary producers, consumers, decomposers; from an autecological and synecological perspective. Prerequisite: Consent of instructor.

FOREN 550 Problems in Forest Engineering
★3 (either term, 3-0-0). Directed study in forest engineering, including forest harvesting, road location and construction. Prerequisite: Consent of instructor. (Offered jointly by the Departments of Agricultural Engineering and Forest Science.) [Forest Science]

FOR 555 Problems in Forest Hydrology
★3 (either term, 0-3s-0). Individual study. Directed study in forest hydrology. Prerequisite: Consent of instructor.

FOREN 560 Trends and Problems in Wood Science I
★3 (either term, 0-3s-0). Individual study. Directed study in wood technology and forest products. Prerequisite: Consent of instructor. [Agricultural Engineering]

FOREN 561 Trends and Problems in Wood Science II
★3 (either term, 0-3s-0). Individual study. Directed study in wood technology and forest products. Prerequisite: Consent of instructor. [Agricultural Engineering]

FOR 565 Problems in Forest Recreation
★3 (either term, 0-3s-0). Individual study. Directed study in forest recreation. Prerequisite: Consent of instructor.

FOR 590 Seminar in Tree Improvement
★3 (second term, 0-3s-0). Reports and discussion of current literature and advanced topics in forest genetics and tree improvement. Prerequisite: Graduate standing and consent of instructor; FOR 490 and GENET 197 recommended.

FOR 600 Forestry Seminar
★1.5 (either term, 0-2s-0). Reports by students, staff and visitors on studies of the literature, current research, and thesis projects. Required of all graduate students. Prerequisite: Consent of department.

FOR 601 Forest Biology
★3 (first term, 0-3s-0). Seminar presentations and discussions by students on the biology and environment of forest ecosystems. The objective of this course is to develop a broader and greater holistic understanding of the biota and physical environments of forest ecosystems. Course team taught by Department of Forest Science staff. Prerequisite: Consent of department.

FOR 602 Forest Resources Management
★3 (second term, 0-3s-0). Seminar presentations and discussions by students on the management of forest ecosystems for traditional and non-traditional values. The objective is to examine human, resource, economic, and policy problems of integrated forest management. Course team taught by Department of Forest Science staff. Prerequisite: Consent of department.

FOR 610 Research Methods in Forestry
★3 (second term, 3-2s-0). Use of the scientific method in forestry research, formulation of hypotheses, design of experiments, interpretation of data. Prerequisite: Consent of the instructor.

FOREN 650 Selected Topics in Forest Engineering
★3 (either term, 3-0-0). Individual study. (Offered jointly by the Departments of Agricultural Engineering and Forest Science.) [Forest Science]

FOREN 660 Selected Topics in Wood Science I
★3 (either term, 0-3s-0). Individual study. [Agricultural Engineering]

FOREN 661 Selected Topics in Wood Science II
★3 (either term, 0-3s-0). Individual study. [Agricultural Engineering]

FOR 690 Evaluation and Implications of Alternative Tree Improvement Strategies
★3 (either term, 0-3s-0). Analyses of various tree improvement strategies; modeling alternative at progressive steps in typical tree improvement programs. Modeling will include the biological and management/economic components. Students will develop a group model to assist in the analyses of alternatives. Seminar/discussion section with considerable outside-of-class work. Prerequisite: Consent of instructor.

204.34 Genetics

Department of Genetics
G216 Biological Sciences Building
University of Alberta
Edmonton, Alberta T6G 2E9

204.34.1 General Information

The Department of Genetics offers programs leading to the Master of Science and Doctor of Philosophy degrees.

Current research activities in the Department are in the areas of cytogenetics, developmental genetics, genetic recombination, molecular genetics, mutagenesis and plant genetics. There is some opportunity for research in conjunction with adjunct members of the Department. Eligible applicants will be admitted for graduate work only if facilities and supervision are available for the project they propose to undertake.

The Department houses a containment area for recombinant DNA research and ample facilities for plant rearing. The sixty-acre Ellerslie experimental station is about ten miles from campus.

Students should nominate their permanent supervisor as soon as possible. Potential applicants, applicants and newly admitted students are encouraged to contact possible supervisors at any time.

Upon arrival, all students are supervised by the Provisional Supervisory Committee (in conjunction with their supervisor, if known). Normally, students are released to the full supervision of their supervisor and a definitive supervisory committee after an assessment examination toward the end of their first year.

Inquiries should be directed to the Graduate Coordinator, Department of Genetics.

Entrance Requirements:

The Department generally does not accept students with less than an overall grade point average of 7.0 in their undergraduate years at the University of Alberta, or an equivalent qualification from a recognized institution. (It may help students from other universities to know that 7.5 is required for First Class Honors at the University.) A TOEFL score of 550 is required, where applicable (see §202.2.2).

Financial Assistance:

Financial assistance is available for some students; it is awarded to students able to teach undergraduate laboratory courses, and on the basis of academic merit. Students working within the Department may be eligible for NSERC and AHFMR graduate studentships.

204.34.2 The Degree of MSc

Program Requirements:

Students in the MSc program are required to produce a thesis and to register in GENET 601, GENET 602 and GENET 605 during each term of full-time attendance at the University. Additional course requirements are determined according to past training and anticipated needs. All candidates for the MSc are required to take an assessment examination toward the end of their first year.

Regardless of their source of support, MSc students are required to instruct the equivalent of two half-year laboratory sections during their program.

Students are required to present a thesis seminar prior to their final thesis defence.

No language other than English is required for the degree of MSc.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

A minimum of two years is normally required. The department generally considers that a satisfactory student should complete the MSc degree within a period of three years.

204.34.3 The Degree of PhD

Program Requirements:

Students in the PhD program are required to produce a thesis and to register in GENET 601, GENET 602 and GENET 605 during each term of full-time attendance at the University. Additional course requirements are determined according to past training and anticipated needs. Students in the program are required to take an assessment examination toward the end of their first year unless they have previously completed an MSc in the department.

Regardless of the source of support, PhD students are expected to instruct the equivalent of three half-year laboratory sections during their program.

Students are required to present a thesis seminar prior to their final thesis defence.

No language other than English is required for the degree of PhD.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

A minimum of three years is normally required. The department considers that a satisfactory student should complete the PhD degree within a period of five years.

204.34.4 Graduate Courses

Note: Not all courses are offered every year. The following may be taken for graduate credit:

THES 900 Thesis
THES 999 Thesis

GENET 300 Genome Organization
★3 (second term, 3-0-0). Prerequisite: GENET 2 (BIOCH 301 is recommended).

GENET 304 Gene Expression and its Regulation
★3 (second term, 3-0-0). Prerequisite: GENET 270.

GENET 308 Replication, Repair and Recombinatio
★3 (first term, 3-1s-0). Prerequisite: GENET 270. No This course is normally recommended for 4th y students.

GENET 312 Genetic Control of Development
★3 (first term, 3-1s-0). Prerequisite: GENET 275 a GENET 270.

GENET 315 Cytogenetics
★3 (first term, 3-1.5s-0). Prerequisite: GENET 275.

GENET 318 Human Genetics
★3 (second term, 3-1s-0). Prerequisite: GENET 275 a GENET 280.

GENET 364 Plant Genetics
★3 (first term, 3-0-0). Prerequisite: GENET 270.

GENET 371 Immunogenetics
★3 (first term, 3-0-0). Prerequisite: GENET 270 or 3 One course in Immunology is recommended.

GENET 381 Population Genetics
★3 (second term, 3-1s-0). Prerequisite: GENET 280.

GENET 390 Biochemical Genetics of Microorganisms
★3 (either term, 3-0-0). Prerequisite: GENET 270, BIO 301, MICRB 193.

GENET 406 Reading Project
★3 (either term, 3-0-0). Prerequisite: A 300-le Genetics course.

GENET 407 Research Project
★3 (either term, 0-0-6). Prerequisite: A 300-le Genetics course.

GENET 420 Research Techniques in Molecular Genetics
★6 (either term, 0-0-12). Prerequisite: GENET 300 a 304 and consent of department. Designed for und graduate and graduate students in Genetics progra and other programs with molecular biological orientati

GENET 421 Research Techniques in Classical and Molecular Cytogenetics
★6 (0-0-6). Prerequisite: GENET 315 and consent department.

GENET 530 Topics in Recombination and Repair
★3 (second term, 3-0-0). Prerequisite: GENET 308.

GENET 531 Current Topics in DNA Replication
★3 (second term, 3-0-0). Prerequisite: GENET 308 consent of department.

GENET 546 Current Topics in Molecular Genetics
★3 (second term, 3-0-0). Prerequisite: GENET 300.

GENET 581 Topics in Population Genetics
★3 (second term, 3-0-0). Prerequisite: GENET 381.

GENET 587 Genetics and Development
★3 (second term, 3-0-0). Prerequisite: GENET 312.

GENET 601 Genetics Seminars
★3 (either term, 0-0-6).

GENET 602 Advanced Perspective on Genetics
★3 (either term, 0-0-6).

GENET 605 Invited Speaker Seminar Series
★6 (0-1s-0).

204.35 Geography

Department of Geography
3-32 Tory Building
University of Alberta
Edmonton, Alberta T6G 2H4

204.35.1 General Information

The Department of Geography offers the degrees of Master of Arts, Master of Science and Doctor of Philosophy. In addition, the Department cooperates with the Departments of Civil Engineering and Geology in a joint program leading to the degree of MSc in geomorphology. Graduate work for each of these degrees includes presentation of an acceptable thesis. The Department will approve only thesis topics which lie within the research specialty of one or more of its staff members.

Facilities in the Department include: office space, a drafting room, photographic darkroom and equipment: a computer mapping laboratory provides access to a Sun 386i system networked to a variety of personal computers and a digitizing workstation, a complete image processing system, and a desktop map publishing system. A microcomputer lab houses 12 computers and is used as both a teaching laboratory and a general processing facility. Various equipment is available for research in cartography, biogeography, geomorphology, meteorology and hydrology. The Department houses the University map library and an extensive collection of air photos. Assistance is available from technical staff in computer programming, cartography and meteorology.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2).

Financial Assistance:

A number of assistantships are available for qualified students, both through University funds and through research funds at the disposal of the Department.

204.35.2 The Degree of MA

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student; however, the MA program normally consists of 18 units of course weight and a thesis.

A reading knowledge of a foreign language is not a formal requirement, although candidates may be required to acquire a language skill if it is appropriate to their particular programs.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MA will vary with the individual candidate; however, a minimum of two years is normally required.

204.35.3 The Degree of MSc

Program Requirements:

The MSc program normally consists of 18 units of course weight taken for graduate credit and a thesis.

A reading knowledge of a foreign language is not a formal requirement, although candidates may be required to acquire a language skill if it is appropriate to their particular programs.

The minimum period of residence for the degree of MSc is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of two years is normally required.

204.35.4 The Degree of PhD

Program Requirements:

The PhD program normally consists of six units of course weight and the preparation and defence of a thesis on an approved topic. PhD candidates' programs will be prepared under the general regulations for that degree.

A reading knowledge of foreign languages is not a formal requirement, although candidates may be required to acquire language skills if these are appropriate to their particular programs.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of three years of study and research is normally required.

204.35.5 Graduate Courses

The following table lists renumbered courses effective 1991-92:

Old	New	Old	New
GEOG 431	GEOG 530	GEOG 435	GEOG 533
GEOG 432	GEOG 531	GEOG 440	GEOG 540
GEOG 434	GEOG 532	GEOG 447	GEOG 537

THES 900 Thesis
THES 999 Thesis

Geography

GEOG 425 Application of Quantitative Methods and Computer Programming in Geography
★3 (either term, 3-0-0). Corequisite: GEOG 420 and consent of department.

GEOG 452 Tundra Ecology/Biogeography
★3 (first term, 3-0-0). Prerequisite: BOT 230 or 231 or GEOG 331 or ZOOL 231.

GEOG 459 Seminar in International Development, Natural Resources and Environmental Hazards
★3 (either term, 3-0-0). Prerequisite: GEOG 439 and the consent of department.

GEOG 461 Research in Physical Geography I
★3 (either term, 3-0-0). Prerequisite: A 300-level Geography course.

GEOG 462 Research in Physical Geography II
★3 (either term, 3-0-0). Prerequisite: A 300-level Geography course.

INT D 464 Northern Studies
★3 (second term, 3-0-0). Prerequisite: GEOG 466 or ZOOL 466. Corequisite: GEOG 466 or ZOOL 366. (Offered by the Boreal Institute for Northern Studies and the Department of Geography.) [Geography]

GEOG 501 Air Photo Interpretation
★6 (3-0-3). Prerequisite: GEOG 217.

GEOG 502 Reading and Seminar Course I
★3 (either term, 0-3s-0).

GEOG 503 Reading and Seminar Course II
★3 (either term, 0-3s-0).

GEOG 505 Models of Public and Private Facility Location
★3 (either term, 3-0-0). Prerequisite: Consent of department.

GEOG 523 Geographic Theory
★3 (first term, 3-0-0). Prerequisite: Consent of the instructor.

GEOG 527 Geophotography
★3 (either term, 0-3s-0). Prerequisite: Consent of the instructor.

GEOG 530 Advanced Fluvial Geomorphology
★3 (either term, 3-0-0). The study of alluvial terrace development and alluvial stratigraphies in a variety of river and stream environments. Strong emphasis is placed on local fieldwork. Prerequisite: A 300-level Geography course. It is recommended that students audit GEOG 430 if it, or equivalent, has not been taken.

GEOG 531 Advanced Glacial Geomorphology
★3 (first term, 3-0-0). Selected aspects of alpine-glacier and ice-sheet landform developments. Strong emphasis is placed on fieldwork. Prerequisite: A 300-level Geography course.

GEOG 532 Periglacial Geomorphology
★3 (either term, 3-0-0). A study of cold-climate landforms and their genesis. Contemporary theories and studies of periglacial phenomena will be critically evaluated. Prerequisite: A 300-level Geography course.

GEOG 533 Advanced Climatology
★3 (first term, 3-0-0). A study of recent developments in climatology. Climate models and their use in examining past of future climates. Interactions between the atmosphere and terrestrial systems. Prerequisite: GEOG 334 and GEOG 433.

GEOG 537 Circumpolar Quaternary Environments
★3 (second term, 3-0-0). Past activity of high latitude ice sheets with particular emphasis on the development of field research conducted on northern mainland Canada and the adjacent Arctic islands. Similar research in Greenland, Spitzbergen and the USSR is also presented. The understanding of late Cenozoic environments is highly interdisciplinary and topics include: glacial and marine stratigraphy, glacio-isostasy, sea level fluctuations, biological refugia and theories of climatic change. The course is designed to provide a thorough understanding of environmental change in high latitudes and students from different disciplines are encouraged to participate. Prerequisite: GEOG 330 or GEOL 380 or 382.

GEOG 540 Advanced Topics in Geomorphology
★3 (second term, 3-0-0). Prerequisite: A 300-level course in geomorphology.

GEOG 550 Research in Regional Geography I
★3 (either term, 0-3s-0).

GEOG 552 Research in Human Geography I
★3 (either term, 0-3s-0).

GEOG 554 Advanced Population Geography
★3 (second term, 3-0-0). Prerequisite: GEOG 354 or consent of instructor.

GEOG 556 Research in Human Geography II
★3 (either term, 0-3s-0).

GEOG 557 Special Research Problems II
★3 (either term, 0-3s-0).

GEOG 561 Rural Development and Planning I
★3 (first term, 3-0-0). Prerequisite: GEOG 460.

GEOG 562 Rural Development and Planning II
★3 (second term, 3-0-0). Prerequisite: GEOG 460, 561.

GEOG 564 Research in Regional Geography II
★3 (either term, 0-3s-0).

GEOG 566 Geography of Outdoor Recreation
★3 (either term, 0-3s-0). Prerequisite: Consent of instructor.

GEOG 568 Water Resources I
★3 (first term, 3-0-0). Prerequisite: Consent of instructor.

GEOG 569 Water Resources II
★3 (second term, 3-0-0). Prerequisite: Consent of the instructor. GEOG 568 is not essential but is highly recommended.

GEOG 581 Physical Structure of the City
★3 (first term, 0-3s-0). Prerequisite: GEOG 481 or equivalent.

GEOG 582 Social Geography of the City
★3 (second term, 0-3s-0). Prerequisite: GEOG 481 or equivalent.

GEOG 588 Political Urban Geography
★3 (first term, 0-3s-0). Prerequisite: One of GEOG 470, 481, 389, or consent of department.

GEOG 589 Urban Land Use Planning
★3 (second term, 0-3s-0). Prerequisite: GEOG 389 or consent of the instructor.

GEOG 630 Advanced Research in Regional Geography I
★3 (either term, 3-0-0).

GEOG 631 Advanced Research in Physical Geography I
★3 (either term, 3-0-0).

GEOG 632 Advanced Research in Regional Geography II
★3 (either term, 3-0-0).

GEOG 633 Advanced Research in Physical Geography II
★3 (either term, 3-0-0).

GEOG 680 Advanced Research in Human Geography I
★3 (either term, 3-0-0).

GEOG 681 Advanced Research in Urban Geography I
★3 (either term, 3-0-0).

GEOG 682 Advanced Research in Human Geography II
★3 (either term, 3-0-0).

GEOG 683 Advanced Research in Urban Geography II
★3 (either term, 3-0-0).

GEOG 690 Seminar on Geographic Thought I
★3 (either term, 0-3s-0).

GEOG 691 Seminar on Geographic Thought II
★3 (either term, 0-3s-0).

GEOG 696 Special Problems I
★3 (either term, 3-0-0).

GEOG 697 Special Problems II
★3 (either term, 3-0-0).

Cartography

CART 445 Digital Remote Sensing
★3 (second term, 3-0-3). Prerequisite: CART 345 or FOR 410.

CART 465 Introduction to Geographic Information Systems
★3 (first term, 3-0-3). Prerequisite: CART 365 or equivalent; familiarity with a programming language, preferably Basic or Fortran.

CART 499 Senior Project in Geoprocessing
★6 (3-0-0). Prerequisite: CART 445 or CART 465.

CART 545 Advanced Techniques in Raster Mapping
★3 (first term, 3-0-0). Prerequisite: CART 445; familiarity with a programming language. Offered in alternate years.

CART 565 Techniques in GIS
★3 (second term, 3-0-0). Prerequisite: CART 465; familiarity with a programming language, preferably Fortran.

CART 585 Readings in Geoprocessing
★3 (either term, 3-0-0). Prerequisite: Consent of instructor.

CART 595 Research in Geoprocessing
★3 (either term, 3-0-0). Prerequisite: Consent of instructor.

CART 601 Advanced Cartography
★3, or ★6 (either term, 3-0-0).

204.36 Geology

Department of Geology
126 Earth Sciences Building
University of Alberta
Edmonton, Alberta T6G 2E3

204.36.1 General Information

The Department of Geology has research laboratories and instructional facilities for 70 resident graduate students proceeding to the MSc and PhD degrees.

The active research fields include mineralogy, igneous, sedimentary and metamorphic petrology, diagenesis, geochemistry, geochronology, isotope geology, metalliferous mineral deposits, volcanology, experimental petrology, sedimentology, stratigraphy, coal and petroleum geology, invertebrate and vertebrate paleontology, engineering geology, quaternary and glacial geology, geostatistics, hydrogeology, geotectonics and structural geology.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2).

Financial Assistance:

In addition to scholarships administered by the University a number of graduate assistantships are awarded by the Department.

Inquiries should be made to the Graduate Adviser, Department of Geology. Telephone (403) 492-3265.

204.36.2 The Degree of MSc

Program Requirements:

Requirements for the degree include satisfactory completion of a thesis and at least nine units of course weight.

There is no language requirement for the degree of MSc.

The minimum period of residence is one to two academic years of full-time attendance at the University of Alberta.

Length of Program:

An MSc program should normally be completed in two academic years of work beyond a four-year Honors or Specialization degree from the University of Alberta, or an equivalent degree from another institution.

204.36.3 The Degree of PhD

Program Requirements:

The essential requirement for the degree of PhD is the planning, execution and reporting of high quality research. A candidacy examination is taken as soon as possible, normally eight to 12 months after admission to the program, in order to ensure that a student has the necessary knowledge, background and ability to complete a PhD thesis. Normally, before taking the candidacy examination a student will have credit in at least eight single-term courses beyond the four-year baccalaureate degree.

A knowledge of languages other than English may also be required.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The PhD program should normally be completed in three to four academic years of work beyond the MSc degree in geology.

204.36.4 The Postgraduate Diploma in Exploration Geology

The Department of Geology has a program of studies leading to the postgraduate diploma in exploration geology. The program is designed to meet the needs of (1) earth scientists wishing to switch into coal, mineral or petroleum exploration; (2) exploration geologists with several years of experience who want to bring themselves up to date; and (3) graduate geologists from overseas who, under the auspices of foreign aid, wish to become familiar with the latest developments in exploration geology.

Entrance Requirements:

Admission to the program requires some industrial experience as well as a four-year degree in geology, geophysics, or mineral engineering from the University of Alberta, or an equivalent qualification from another institution.

Program Requirements:

Each program is individually tailored to suit a candidate's academic background, experience and interests; however, each must contain at least 21 units of course weight in graduate courses. A thesis is not required. No languages other than English are required for the diploma.

There is no specified residence requirement.

Length of Program:

The requirements for the postgraduate diploma can normally be completed in two four-month terms.

204.36.5 Graduate Courses

The following table lists renumbered graduate courses effective 1990-91:

Old	New	Old	New
GEOL 601	GEOL 501	GEOL 640	GEOL 540
GEOL 607	GEOL 506	GEOL 644	GEOL 544
GEOL 612	GEOL 512	GEOL 649	GEOL 549
GEOL 613	GEOL 513	GEOL 650	GEOL 550
GEOL 621	GEOL 521	GEOL 651	GEOL 551
GEOL 622	GEOL 522	GEOL 652	GEOL 552
GEOL 623	GEOL 520	GEOL 654	GEOL 554
GEOL 624	GEOL 514	GEOL 655	GEOL 555
GEOL 625	GEOL 515	GEOL 660	GEOL 560
GEOL 626	GEOL 516	GEOL 670	GEOL 572
GEOL 627	GEOL 517	GEOL 680	GEOL 580
GEOL 628	GEOL 518	GEOL 683	GEOL 583
GEOL 630	GEOL 535	GEOL 684	GEOL 582
GEOL 632	GEOL 536	GEOL 685	GEOL 585
GEOL 633	GEOL 537	GEOL 686	GEOL 586
GEOL 639	GEOL 539	GEOL 687	GEOL 587

Graduate courses in the Department of Geology are divided into core courses, which are offered each year, and more specialized courses marked with a †, which are offered less frequently when the demand arises. Incoming students are expected to enrol in a required seminar and are strongly encouraged to enroll in the core courses offered in their subdivision of the department.

Core Courses

Mineralogy — Petrology — Geochemistry — Ore Deposits: GEOL 435, 549, 550, 551, 555.
Terrain Science: GEOL 501, 550, 582, 586, INT D 594.
Paleontology — Stratigraphy — Sediments — Coal — Petroleum: GEOL 522, 514, 515.

THES 900 Thesis
THES 999 Thesis

GEOL 421 Subsurface Geologic Methods
★3 (first term, 3-0-3). Methods of acquiring geologic data from beneath the surface by remote means: drilling, sampling, coring, logging; significance of geophysical techniques; presentation of subsurface information. Prerequisite: GEOL 323, 347, and 360.

GEOL 424 Petroleum Geology I
★3 (first term, 3-0-3). Origin and distribution of petroleum. Geochemistry and maturation of organic matter; microbiological and thermal degradation of hydrocarbons, conventional and unconventional source and reservc rocks; principles of primary and secondary migratio diagenesis of carbonate and clastic reservoir rocks, wi reference to seals and traps. Prerequisite: GEOL 346, 35

GEOL 425 Petroleum Geology II
★3 (second term, 3-0-2). Basin analysis, Trap type tectonic, structural, stratigraphic, sedimentologi geothermal and hydrogeological characteristics petroliferous basins. Exploration and development hydrocarbon plays using seismic, core and wire lin logging, thin section petrography, correlation and ma ping, sequence stratigraphy, palinspastic an paleogeographic reconstruction. Prerequisite: GEOL 32 360, 421, 424, 442.

GEOL 426 Coal and Industrial Minerals
★3 (first term, 3-0-3). Composition and origin of coa diagenesis and metamorphism; macrolithotypes an macerals; coal analysis, classification and uses; co resources and reserves; occurrence, origin and use non-metalliferous industrial rocks and minerals. Prere uisite: GEOL 347, 360.

GEOL 427 Petroleum Hydrogeology
★3 (second term, 3-0-3). Principles of hydrogeolog subsurface hydrodynamics and basinal fluid flow; eval ation and interpretation of subsurface hydrodynam data of extended regions; hydraulics and hydrodynamic of petroleum entrapment; review of migration and acc mulation theories; hydrogeologic indicators of petroleu accumulations; field examples. Prerequisite: GEOL 42 GEOL 488 is recommended.

GEOL 428 Precambrian Geology
★3 (first term, 3-0-0). Precambrian geologic record wit special reference to the stratigraphy, structure, petro ogy, mineral deposits, geochronology and metamo phism of the Canadian Shield and Western Canadia Cordillera. Prerequisite: GEOL 323, 347.

GEOL 432 Metalliferous Mineral Deposits
★3 (first term, 3-0-3). An introduction to the geolog characteristics and distribution of the principal metalli erous mineral deposits. Prerequisite: GEOL 347, 360.

GEOL 433 Ore Petrology
★3 (second term, 3-0-0). Mineralogy and petrogenesis metalliferous deposits; mechanism of hydrothermal trans port and deposition; metamorphic and igneous processe of ore segregation and modification; application of isotop data to the study of ores. Prerequisite: GEOL 432.

GEOL 435 Rock-Forming Minerals
★3 (first term, 3-0-3). Structure, composition, optic and physical properties, phase relationships an paragenesis of some important rock-forming mineral and mineral groups. Prerequisite: GEOL 335 and a 30 level Geology course.

GEOL 442 Sedimentary Facies
★3 (first term, 3-0-3). Processes of clastic and chemic sedimentation, and diagenesis; sedimentary environ ments and facies; laboratory techniques in the study sedimentary rocks. Prerequisite: GEOL 346, 347.

GEOL 443 Petrogenesis of Igneous and Metamorphic Rocks
★3 (second term, 3-0-3). Origin and formation igneous and metamorphic rocks in the light of fiel mineralogical, chemical and experimental evidenc Prerequisite: GEOL 347 and 352.

GEOL 454 Inorganic Geochemistry
★3 (second term, 3-0-3). Applications of geochemistr to rock- and ore-forming processes. Significance an use of minor elements and isotopes as geological trac ers. Prerequisite: GEOL 352.

†GEOL 463 Structural Geology II
★3 (second term, 3-0-3). Regional structural geology wit special emphasis on the Cordilleran, Innuitian, Appalachian Caledonian, and Alpine orogenic belts, analysis of strain computer-based procedures for determining the geometr of faults and folds. Prerequisite: GEOL 360.

GEOL 470 Geotectonics
★3 (first term, 3-0-0). Fundamentals of plate tectoni theory and the evolution of the Earth. Application plate tectonics to the theory of sedimentary basins an orogenic belts. Tectonics of western North America Prerequisite: GEOL 347, 360.

GEOL 488 Introduction to Hydrogeology
★3 (first term, 3-0-3). Occurrence, distribution, move ment and chemistry of groundwater as a function of th geological environment; groundwater as a geologic agent methods of collection, organization and use of hydrogeologi data; case histories. Prerequisite: MATH 115 and a 300 level course in Geology.

†GEOL 492 Photogeology and Remote Sensing
★3 (second term, 3-0-3). Application of aerial photo graphs to geological mapping and terrain analysis; inter pretation of geological structure and landforms; remot sensing in geology; sensor principles and capabilities analysis of imagery. Prerequisite: A 300-level Geolog course and consent of department.

GEOL 501 Environmental Geology
★3 (second term, 3-0-0).

GEOL 506 Geologic Research
★3 (either term, 0-0-8).

GEOL 512 Selected Topics in Paleontology
★3 (either term, 4-2s-0).

GEOL 513 Principles of Ichnology
★3 (first term, 3-0-0). Introduction to animal-sediment relationships in both modern and ancient environments; principles of classification and taxonomy, environmental significance of trace fossils in facies analysis. Prerequisite: GEOL 210 and 442.

GEOL 514 Process Sedimentology
★3 (second term, 3-0-0). Concepts and applications of process sedimentology with emphasis on shallow marine processes of sedimentation and facies relationships for modern and ancient continental margin depositional systems. Prerequisite: GEOL 442 or equivalent or consent of instructor.

†GEOL 515 Advanced Carbonate Sedimentology
★3 (3/2-0-0). Course will cover aspects of carbonate mineralogy, formation of carbonates, role of biological activity, classification of carbonates, depositional environments of carbonates, diagenesis (including dolomitization) and reefs. Practical part of course consists of a 10-day field trip in an area of modern carbonate deposition.

GEOL 516 Fossil Energy Resources
★3 (either term, 0-3s-0).

GEOL 517 Selected Topics in Clay Geology
★3 (3/2-0-3/2). Structure and classification of clay minerals; identification and analysis of clay minerals, chemistry of clay minerals, geology of clays and clay minerals, isotope studies of clay minerals, clay minerals in reservoir engineering, oil sands and heavy oil deposits, research project in clay mineralogy. Prerequisite: Consent of instructor.

GEOL 518 Geology in Oil Sands Deposits
★3 (first term, 3-3s-0). Basic introduction to stratigraphy and sedimentation of Alberta oil sands deposits, with emphasis on sedimentary processes, facies analysis and environments of deposition. Introduction to basic petroleum geology, with emphasis on detailed geology of Alberta heavy oil deposits. Labs will include regional log correlations, core descriptions, sedimentary facies interpretations and analysis of tar sands. Prerequisite: Consent of department.

GEOL 520 Physical and Chemical Diagenesis of Sedimentary Rocks
★3 (second term, 3-0-0). An introduction to the physical, chemical and biological processes that cause changes in sediments or sedimentary rocks following deposition in water. The mineralogy and geochemistry of the products of diagenesis in clastic and carbonate rocks. Implications of diagenesis in petroleum geology, reservoir engineering, hydrogeology and other aspects of economic geology. Artificial diagenesis in heavy oil and oil sand deposits. Research techniques in diagenesis. Prerequisites or corequisites: GEOL 650 or consent of department.

GEOL 521 Sedimentary Dynamics
★3 (3/2-0-0). Sediment transport; bedform dynamics; origins of sedimentary structures, fabrics and textures; hydraulics of sedimentation. Prerequisite: GEOL 442 or consent of the instructor.

GEOL 522 Historical Geology Seminar
★3 (0-1s/2-0). Selected topics in historical geology and stratigraphy. Prerequisite: GEOL 323.

GEOL 535 Selected Topics in Mineralogy
★3 (either term, 0-3s-0).

GEOL 536 Advanced Ore Petrogenesis
★3 (second term, 0-3s-0).

GEOL 537 Economic Geology
★3 (second term, 3-0-0). The economics of exploration and exploitation with respect to metalliferous raw materials. Exploration logistics and planning. Property evaluation. Drilling and sampling techniques. Reserve and grade estimation.

GEOL 539 Theory and Practice of Electron Microbeam Analysis
★3 (first term, 3-0-3). Instrumentation, theory and applications in the Earth Sciences, with particular reference to electron microprobe analysis.

†GEOL 540 Chemical Petrology
★3 (second term, 2-2s-0). Advanced chemical petrology of either igneous or metamorphic rocks.

GEOL 544 Selected Topics in Petrology
★3 (either term, 0-3s-0).

GEOL 549 Mineralogy—Petrology—Geochemistry Seminar
★3 (either term, 0-3s-0). Selected topics in mineralogy, petrology and geochemistry presented and discussed by students and staff.

GEOL 550 Low Temperature Geochemistry
★3 (first term, 3-0-0). Theories of transport in geological systems with a description of the major physical, chemical and biological processes. Equilibrium and non-equilibrium fluid-rock interactions with emphasis on solubility relationships, carbonate equilibria, ion complexes, and clay-dominated systems. Characterization of low temperature environments. Eh-pH diagrams, and sampling and analyses of fluids. Prerequisite: GEOL 352 or equivalent.

GEOL 551 High Temperature Geochemistry
★3 (either term, 3-0-0). Geometrical, thermodynamical and kinetical treatment of solid-liquid-gas equilibria and their application to metamorphic and igneous processes. Properties of silicate melts, crystallization, element partitioning, solutions. Geothermometry and geobarometry. Isotopes as tracers in petrogenesis. Prerequisite: GEOL 352 and 443 or equivalent.

†GEOL 552 Advanced Geochemistry
★3 (second term, 3-2s-0). Special topics in inorganic geochemistry and isotope geology, with particular reference to the mantle and the evolution of the crust. Prerequisite: GEOL 551 or consent of the instructor.

GEOL 554 Isotope Geology: Radioactive Systems
★3 (first term, 3-0-0). Theory and systematics of radioactive decay, geochronology using K-Ar, Rb-Sr, U-Pb, Pb-Pb, Fission track; carbon-14, U-series disequilibrium and Sm-Nd systems; applications of natural radioactive isotope variation to geologic problems such as basalt genesis, formation of the crust, calibration of the Phanerozoic time scale and the nature of meteorites. Prerequisite: GEOL 352 or equivalent.

GEOL 555 Isotope Geology: Stable Isotope
★3 (second term, 3-0-0). Theory of light isotope fractionation, D and ^{18}O fractionation in the hydrologic cycle; carbonate paleothermometry; δD and $\delta^{18}O$ variation in igneous metamorphic and sedimentary rocks; δS^{34}, δD and δD^{18} variations in ore deposits; Biogeochemistry. Prerequisite: GEOL 352 or equivalent.

GEOL 560 Selected Topics in Structural Geology
★3 (second term, 3-0-0). Special topics in structural geology, from mesoscopic strain and kinematic indicators to orogenic belts; terrane analysis and comparative tectonics, with emphasis on the contribution of North American Phanerozoic orogens to current theory; lectures by instructor, and student research and seminar presentations. Prerequisite: Consent of department.

†GEOL 572 Geotectonics
★3 (first term, 3-0-0). Study of contemporary theory of global tectonics.

GEOL 580 Quantitative Geomorphology
★3 (second term, 3-0-3).

GEOL 582 Terrain Science Seminar
★3 (either term, 0-3s-0). Topics in terrain science to be discussed by students and staff.

†GEOL 583 Selected Topics in Quaternary Geology
★3 (second term, 0-3s-0). Prerequisite: INT D 594.

†GEOL 585 Contaminant Hydrology
★3 (second term, 3-0-3). Overview of contaminant hydrology with emphasis on the theory of contaminant migration and dispersion, field methodologies, and transport models. Exercises will involve problem solving and case histories. Prerequisite: GEOL 488 or consent of department.

†GEOL 586 Quantitative Hydrogeology
★3 (second term, 3-0-3). Detailed examination of the theory and application of computer modeling techniques. Finite difference, integrated finite difference and finite element techniques as applied to groundwater flow. Familiarization with computer codes and problem solving. Prerequisite: GEOL 588 or consent of Department.

GEOL 587 Regional Groundwater Flow
★3 (second term, 1-3s-0). Principles of regional groundwater flow. Basinal flow as a geologic agent. Implications regarding hydrology, geomorphology, geothermics, pedology, soil mechanics, mineral deposits, petroleum geology and so on. Introductory lectures by instructor followed by students' seminar presentations. Prerequisite: GEOL 488 or equivalent.

204.37 Geophysics

The Department of Physics offers programs leading to the MSc and PhD degrees with specialization in solid earth physics and space physics. See §204.66.1 for a more detailed description of the courses and the program.

204.37.1 Graduate Courses

The Department of Physics offers programs leading to the MSc and PhD degrees with specialization in solid earth physics and space physics. See §204.66 for a more detailed description of the courses and the programs.

THES 900 Thesis
THES 999 Thesis

GEOPH 421 Seismology and Physical Structure of the Earth
★3 (second term, 3-0-0). Seismology; Infinitesimal strain theory; elastic stress and moduli of elasticity; plane waves in isotropic layered media; imperfectly elastic media; earthquake mechanisms. Physical structure of the earth; seismometers. Prerequisite: MATH 300 or 437.

GEOPH 424 Electromagnetic and Potential Methods of Exploration
★3 (second term, 3-0-0). Theory and application of Maxwell's equations. Potential theory as applied to gravity, magnetic and electrical studies. Interpretation of field data. Direct and indirect methods of inversion to obtain model structures. Prerequisite: GEOPH 325 or consent of department, and MATH 300 or 437. Corequisite: GEOPH 428.

GEOPH 426 Time Series in Applied Seismology
★3 (first term, 3-0-0). Application of time series analyses to seismic data processing. Fast Fourier transforms; Z transformation, spectral analyses, band pass and velocity filtering, deconvolution, auto and cross correlation; analog to digital conversion, wave propagation in layered media. Prerequisite: GEOPH 326 or equivalent. Corequisite: GEOPH 428.

GEOPH 428 Application of Methods of Exploration Geophysics
★6 (0-0-6). A ten day field camp held before the beginning of the fall term provides data for interpretation during the fall and winter terms. Problems associated with the analysis of real data are discussed in a weekly seminar. Prerequisite: MATH 300. Note: Restricted to geophysics honors and specialization students.

GEOPH 429 Upper Atmosphere and Space Physics
★3 (second term, 3-0-0). Generation of the solar wind; the interplanetary plasma and field environment; the solar-terrestrial interaction; magnetospheric substorms; the aurora borealis; magnetosphere-ionosphere interactions; effects of magnetospheric storms on man-made systems; use of natural electromagnetic fields for geophysical exploration. Prerequisite or corequisite: PHYS 382.

GEOPH 620 Geodynamics
★3 (either term, 3-0-0). To include emphasis on: I: paleomagnetism; II: rheology; III: tectonic theories; IV: heat flow; or V: elastodynamics.

GEOPH 621 Geomagnetism I or II
★3 (either term, 3-0-0).

GEOPH 623 Time Sequence Analysis
★3 (first term, 3-0-0).

GEOPH 624 Theoretical Seismology I or II
★3 (second term, 3-0-0).

GEOPH 625 The Physics of In-situ Heavy Oil Recovery
★3 (either term, 3-0-0).

GEOPH 626 I: Isotopic Studies of Stable and Radiogenic Elements; II: Mass Spectroscopy — Instumentation and Techniques
★3 (either term, 3-0-0).

GEOPH 628 Topics in Solar-terrestrial Relationships I or II
★3 (either term, 3-0-0).

GEOPH 631 Advanced Topics in Plasma and Space Physics I or II
★3 (either term, 3-0-0).

204.38 Germanic Languages

Department of Germanic Languages
300 Arts Building
University of Alberta
Edmonton, Alberta T6G 2E6

204.38.1 General Information

The Department of Germanic Languages offers graduate work leading to the MA and PhD degrees with a concentration in either German literature or Germanic linguistics and philology.

Among the areas for which the Department is especially qualified, through staff and library resources, to direct work leading to graduate degrees, are Germanic philology and linguistics, medieval literature, the age of Goethe, romanticism, and nineteenth and twentieth century literature. The University Library is especially rich in primary and secondary sources, including periodicals, of the post-naturalistic period; it is fortunate in having the Georg

Kaiser Collection which offers a rare opportunity for research into the life and work of this author, using photocopies of original material, much of which is still unpublished.

Entrance Requirements:

The minimum admission requirements are outlined under the appropriate degree headings below.

Financial Assistance:

Financial assistance is available in the form of fellowships and graduate assistantships.

For further information on graduate programs and financial assistance contact the Chair of the Department.

204.38.2 The Degree of MA

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2).

Program Requirements:

There are two routes leading to the MA degree: thesis-based and course-based.

The minimum period of residence for the thesis-based MA degree is one year of full-time attendance at the University of Alberta. There is no residence requirement for the course-based MA.

(1) **Thesis-based MA**

a. For students with a three-year BA, 36 to 48 units of course weight are required in a two-year program, the first of which is a qualifying year; for students with a four-year bachelor's degree, other than Honors German, 36 units of course weight are normally required in a two-year program; and for students with a BA Honors degree in German 18 units of course weight are required in a one-year program.

b. All candidates for the thesis-based MA must normally take GERM 411, GERM 593, and the non-credit course GERM 515, unless fulfillment of equivalent requirements can be demonstrated. Each program will be decided upon in consultation with the Department.

c. All candidates for the thesis-based MA are required to take a final oral examination, which is a defense of their thesis.

(2) **Course-based MA**

a. For students with a three-year BA, 42 to 54 units of course weight are required in a two-year program, the first of which is a qualifying year; for students with a four-year bachelor's degree other than Honors German, 42 units of course weight are normally required in a two-year program; and for students with a BA Honors degree in German 24 units of course weight are required in a one-year program.

b. In addition all candidates for the course-based MA must normally take GERM 531 and the non-credit course GERM 515, unless fulfillment of equivalent requirements can be demonstrated. Each program will be decided upon in consultation with the Department.

c. In addition, all candidates for the course-based MA are required to submit a directed research project (equivalent to six units of course weight) which will be evaluated by two readers on a pass/fail basis. Candidates are also required to give a presentation or lecture on their research project.

Length of Program:

Candidates will normally spend one year in a one-year MA program and two years in a two-year MA program in full-time study to complete the requirements for the degree.

204.38.3 The Degree of PhD

Entrance Requirements:

For admission as a provisional candidate for the PhD degree, in general, the University of Alberta MA in German or its equivalent (including Staatsexamen) will be required. Students with a course-based MA (non-thesis) degree will be required to write an extended term paper in one of their graduate courses during the first term of their first year of doctoral studies. Students must also demonstrate their proficiency in oral and written German. A minimum TOEFL score of 550 is required where applicable (see §202.2.2).

Program Requirements:

The requirements for the PhD degree are as follows:

(1) In addition to the requirements for the MA, candidates must complete the equivalent of 36 units of course weight. In each case, the student's program will be decided upon in consultation with the Department.

(2) Candidates must demonstrate reading proficiency in an approved language other than German or English.

(3) All candidates for the PhD must pass a candidacy examination, consisting of a written Departmental examination and a Faculty oral examination.

(4) A dissertation of publishable quality on an approved topic must be submitted by all candidates.

(5) Candidates must pass a final oral examination, which is a defense of the dissertation.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of three years is normally required.

204.38.4 Graduate Courses

The following list represents the graduate course and seminar offerings of the Department from which a selection will be made for a given year.

All registrations must be approved by the Department.

Courses and/or Seminars marked ★3 or ★6 carry a weight of either three or six depending on whether the length of the course and/or seminar is one or two terms.

German

THES 900 Thesis
THES 999 Thesis
GERM 900 ★6 Directed Research Project

GERM 500 Reading Course
★6 (3-0-0). This course is designed for graduate students who wish to satisfy the language requirement of their department. An intensive study of essential grammar, reading of graded texts, and translation of texts from the student's own field. Note: Not open to undergraduates.

GERM 511 Composition and Conversation
★3 (first term, 3-0-0).

GERM 512 Advanced Composition and Conversation
★3 (second term, 3-0-0).

GERM 515 Teaching Strategies for College and University Teachers
★0 (1-0-2).

GERM 520 Cultural and Political Topics in German Literature
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 540 Old High German
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 550 Gothic
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 560 History of the German Language
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 580 Comparative Germanic Grammar
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 590 Old Saxon
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 593 Bibliography and Methods of Literary Scholarship
★3 (first term, 3-0-0).

GERM 603 Early Middle High German Literature
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 604 Studies in Middle High German Lyric Verse
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 605 The Nibelungenlied
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 606 Hartmann von Aue
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 607 Wolfram von Eschenbach
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 609 Gottfried von Strassburg
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 611 Walther von der Vogelweide
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 612 Late Middle High German Literature
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 613 Early New High German Literature
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 615 Studies in Seventeenth-Century Literature
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 616 Studies in Eighteenth-Century Literature
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 617 Lessing
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 618 Enlightenment
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 619 Sturm und Drang
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 620 Classicism
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 622 Goethe
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 624 Schiller
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 625 Romanticism
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 626 Studies in the Literature of the Age of Goethe
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 633 Drama of the Nineteenth-Century
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 634 Prose of the Nineteenth-Century
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 635 Realism
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 637 Naturalism
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 639 Expressionism
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 645 Modern German Literature (up to 1945)
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 650 Contemporary German Literature (from 1945 to the Present)
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 655 Studies in German Poetry
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 665 Studies in the German Novel
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 675 Studies in the German Novelle
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 685 Studies in German Drama
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 696 Conference Course in Germanic Linguistics and Philology
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 697 Special Topics in Germanic Linguistics and Philology
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 698 Special Topics in German Literature
★3 (either term, 3-0-0) or ★6 (3-0-0).

GERM 699 Conference courses
★3 (either term, 3-0-0) or ★6 (3-0-0). Detailed study of an author, period, genre, or any literary problem not dealt with in the Honors or Graduate courses listed above. Designed to meet the needs of individual students.

Scandinavian

SCAND 550 Old Icelandic Philology
★6 (3-0-0).

204.39 Health Services Administration and Community Medicine

Department of Health Services Administration
and Community Medicine
13-103 Clinical Sciences Building
University of Alberta
Edmonton, Alberta T6G 2G3

204.39.1 General Information

The Department of Health Services Administration and Community Medicine offers a two-year program leading to the degree of Master of Health Services Administration and a one-year program leading to the postgraduate diploma in health services administration.

Students may select either a thesis-based or a course-based route to the degree of MHSA. The thesis-based option emphasizes the development of research and planning expertise relevant to efficient and effective delivery of health and social services. The course-based option emphasizes the development of administrative expertise relevant to programs and agencies in the health and social

ervices fields. The MHSA program is acceptable to the Council of the Royal College of Physicians and Surgeons of Canada as a portion of a specialty training program in Community Medicine.

Entrance Requirements:

The Department's minimum admission requirements are those set out as minimum acceptable standards by the Faculty of Graduate Studies and Research. These include a baccalaureate degree with a grade point average of at least 6.5 on the 9-point grading system in the work of the last two years of university education at the University of Alberta, or an equivalent qualification from another institution, and a TOEFL score of 550 where applicable (see §202.2.2).

The Department also requires:

1) three letters of reference;

2) Miller Analogies Test (MAT) results;

3) personal curriculum vitae (in addition to the vitae form attached to the application form), including copies of any relevant articles or student papers;

4) advice regarding any time limitation relating to the application (for example, notice to employer);

5) a statement of intent which includes the following information:

   a. why the student is interested in the Health Services Administration program;

   b. career plans upon completion of the program;

   c. a description of the student's employment experience relevant to health and social services administration, and;

   d. any additional information the student feels is pertinent and useful to the Selection Committee's consideration of the application;

6) in addition to the above, applicants for the Postgraduate Diploma Program must have had three year's experience in the health or welfare field;

7) applicants for the Postgraduate Diploma in Health Services Administration will be required to submit (in the letter of intent) the classes they plan to take, and to indicate the relevance of the proposed coursework to the applicant's career. This statement will be used in assessing the application and the acceptability of proposed exemptions or advanced credit.

Financial Assistance:

The University of Alberta Student Awards office can provide information concerning specific awards and scholarships for which graduate students in the Department are eligible to apply. Of particular interest are the Alberta Heritage Scholarships. Students may also be eligible for professional training grants or bursaries that are administered by various provincial departments of health or social services or both.

In addition, the Department of Health Services Administration and Community Medicine has a limited amount of student aid in the form of graduate assistantships which are awarded to candidates in September of each year.

If the thesis option is selected students may apply for a National Health Student Fellowship from the National Health Research and Development Program of Health and Welfare Canada and for Province of Alberta Graduate Scholarships.

Requests for further information and application forms should be forwarded to the Department of Health Services Administration and Community Medicine.

204.39.2 The Degree of MHSA

Program Requirements:

(1) **Qualifying year:** The details of a student's course requirements are determined by the faculty of the Department; consideration is given to the student's prior course work and experience as well as the student's career plans. The typical qualifying year course requirements are as follows:

Required:

H S A 400, 401, 420, 430, 431, 450, 470, and 499; plus one of: H S A 421, 513; plus two of: HSA 435, 460, 471;

Note: The department does not require Qualifying students to take courses listed above in which they have developed competence at least equal to the level offered in this program as judged by the instructor concerned.

(2) **Candidacy Year:** Requirements in the candidacy year will vary according to the student's interests and needs, as will the selection of either the thesis-based or course-based route. The focus and variety of course work must represent a logically coherent preparation in reference to the student's career interests, research plans, and the needs of the field.

Consideration may be given to modifications in the course work outlined below where special circumstances of prior education, work experience and/or career interests are present.

a. Thesis-based Route: In addition to the thesis, students must normally complete two pairs of courses from the following list, one pair of which must be H S A 530/531 or HSA 560/561: two pairs of H S A 510/610; 530/531; 535/610; 550/551; 560/561; 570/571; 600/601; and 520/610 (if available).

b. Course-based Route: Normally, students must complete one of the above pairs of courses plus:

   1) six units of course weight in additional, approved graduate level H S A courses (preferably a linear pair);

   2) 12 units of course weight in additional approved electives; six units of course weight must be graduate level courses; at least three units of course weight should be an H S A course;

   3) a Major Paper Project.

No language other than English is required for the degree of MHSA.

The minimum period of residence is two, four-month terms of full-time attendance at the University of Alberta. A part-time, course-based MHSA program is also offered (see §123.6.2).

Length of Program:

To complete degree requirements in the shortest possible time, students should expect to work on the major paper or thesis during the May to August period of the second year. All degree requirements must be completed within four years of the time when the student first registered as a candidate.

204.39.3 The Postgraduate Diploma in Health Services Administration

The purpose of the diploma is to provide high quality post-baccalaureate educational experience in health services administration to a larger number of health care personnel than is currently possible within the framework of the master's program. This course of studies will be of particular interest to health and welfare executives seeking mid-career educational opportunities.

Diploma students and graduates may apply for admission to the Master of Health Services Administration program and, if accepted, health services administration courses which have been completed with a grade of 6 or better may be credited towards the qualifying year of the master's degree. Diploma graduates can normally complete the master's program in one year. Any diploma student or graduate intending to apply for admission to the MHSA program must do so by December 1 of the preceding year in order that a placement for the field practicum (HSA 499) in the following summer can be arranged.

Requests for further information and application forms should be forwarded to the Department of Health Services Administration and Community Medicine.

Entrance Requirements:

To be admissible to the diploma program, the applicant must have had three years' experience in an administrative, clinical or research position in the health or welfare field and must meet all other departmental admission standards as set out in §204.39.1 above. Applicants are required to also submit a statement regarding why they wish to take the Diploma program, the classes they plan to take, and the relevance of the proposed coursework to their career.

Program Requirements:

(1) Required courses: Two (six units of course weight)

   a. HSA 400 Health and Welfare Delivery Systems

   b. HSA 401 Problems and Issues in Health and Welfare Delivery

(2) 24 units of course weight in elective courses at the 400-level or higher:

   a. At least 18 units of course weight in these electives are to be H S A courses at the 400-level or higher.

   b. Of the above 24 units of course weight, there shall normally be two linear pairs of courses. In addition to the apparent linear pairs of courses such as HSA 420/421 or 470/471, the following shall be considered to be linear: HSA 420/513, 450/460, and 435/535.

(3) Transfer Credit and Exemptions:

   a. Transfer credit can be recommended for any approved course provided it (a) was not taken for credit toward another earned degree or diploma, and (b) was taken for credit in the previous five years.

   b. A maximum of two exemptions will be allowed for prior equivalent HSA coursework.

   c. Within the above context, a minimum of 18 units of course weight in the Diploma Program, including courses for which transfer credit is granted, must be taken at the University of Alberta.

   d. Normally, only courses taken within the five years prior to admission to the postgraduate diploma program may be considered for credit toward diploma course requirements.

   e. Consideration may be given to modifications in the course work outlined above in exceptional circumstances of prior education, work experience, and/or career interest.

   f. No language other than English is required for the postgraduate diploma.

   g. There is no minimum period of residence.

Length of Program:

The diploma may be completed on a full-time or part-time basis, but must be finished within four academic years of initial registration. It can be completed in one academic year of full-time attendance.

204.39.4 The Joint PhD Program in Health Care Planning and Evaluation

The University of Alberta offers a doctoral program with a specialization in Health Care Planning and Evaluation jointly administered by the Department of Sociology and the Department of Health Services Administration and Community Medicine (see also §204.78.3). There is a possibility that joint programs may be arranged with other departments.

The doctoral program is designed to prepare teachers and researchers in health care planning and evaluation by providing an optimal combination of academic and practical experience. The PhD program will require two or three calendar years for completion, depending on the student's academic and practical experience.

Students interested in the joint doctoral program should contact the Department of Health Services Administration and Community Medicine.

204.39.5 Graduate Courses

Note: Courses marked with an astersik (*) may not be offered in a given year. Courses offered will be determined by student interest and available faculty resources.

THES 900 Thesis
THES 999 Thesis
H S A 900 ★6 Directed Research Project Preparation of a major research paper under faculty supervision.

H S A 400 Health and Welfare Delivery Systems
★3 (first term, 3-0-0). A review of the development of the Canadian health and welfare system and of its contemporary structure and functions.

H S A 401 Problems and Issues in Health and Welfare Delivery
★3 (second term, 3-0-0). An analysis of selected problems in the delivery of health and welfare services.

H S A 420 Structure and Process in Health and Welfare Service Agencies
★3 (first term, 3-0-0). An introduction to organizational theory and its application to the management of health and welfare agencies.

H S A 421 Management of Health and Welfare Service Agencies
★3 (second term, 3-0-0). Applications of social science theory and research findings to the administration of health and welfare agencies. Lectures and field projects.

H S A 430 Methods and Statistics in Health Services Administration I
★3 (first term, 3-0-0). An introduction to statistical models and research design as they relate to research and decision making in health service agencies.

H S A 431 Methods and Statistics in Health Services Administration II
★3 (second term, 3-0-0). An introduction to basic methodological procedures fundamental to research and decision making in health services administration.

H S A 435 Survey of Epidemiology
★3 (first term, 3-0-0). An introduction to the principles of epidemiology and the sources of data concerning the etiology and prevention of disease, with special reference to the planning of health programs.

H S A 450 Health Services Accounting and Finance
★3 (either term, 3-0-0). An introduction to managerial accounting with emphasis on understanding financial

statements and their interpretation. This course will include budgeting and other managerial control techniques in the health care field.

H S A 460 Information Systems and Data Management in Health Services Administration
★3 (either term, 3-0-0). Introduction to computer systems, data structure, and computer files; use of packaged programs for efficient file management and data analysis; issues in health information systems and problem oriented medical information systems; review of selected hospital and other health information systems.

H S A 470 Introductory Health Care Economics
★3 (first term, 3-0-0). An introductory survey of macroeconomic, microeconomic, and public finance models relevant to the health care field.

H S A 471 Application of Economic Principles to Health Services Administration
★3 (second term, 3-0-0). A survey of health care economic theory and empirical studies. Topics and areas covered include (a) demand, supply, and utilization; (b) production and costs; (c) resource allocation in health care labour markets; (d) selected facets of health care planning; and (e) benefit-cost analysis. The empirical studies examined in this course require an understanding of simple and multiple regression techniques.

H S A 499 Field Practicum
★6 (Intersession, May 1-Aug 31). A four month summer field experience practicum supervised by the faculty.

H S A 510 Ethical and Legal Issues in Health Services Administration
★3 (either term, 3-0-0). An examination of ethical and legal principles as they relate to health care with analysis of selected ethical and legal issues pertinent to health care administrators, researchers, and policy-makers.

H S A 513 Nursing Service Administration
★3 (second term, 3-0-0). Advanced analysis of major components in nursing service administration in diverse and rapidly changing health care systems, with particular emphasis on the changing role of chief nursing executives in health care agencies.

H S A 520 Advanced Topics in the Structure and Process of Health and Social Service Agencies
★3 (either term, 3-0-0). Topics in organizational theory related to health and social service agencies. Emphasis both on the evaluation of research findings and their application to management and policy. Prerequisite: H S A 420 or permission of instructor.†

H S A 530 Statistics for Health Services Administration
★3 (first term, 3-0-0). Intermediate level coverage of statistical methods for health services planning and research as applied to administrative planning, research, and problem solving in health service agencies. Prerequisite: H S A 431 or equivalent.

H S A 531 Research Methods in Health Services Administration
★3 (second term, 3-0-0). An overview of research needs, priorities, and approaches in health services planning and research. Emphasis on a practical, systematic and valid approach to improving the quality and quantity of health and welfare services. Prerequisite: H S A 530.

H S A 535 Problems and Issues in Epidemiology
★3 (second term, 3-0-0). Review and discussion of contemporary epidemiological problems from the viewpoint of multi-factorial etiology, and the application of epidemiological principles to the study of chronic disease and accidents.

H S A 550 Health Services Finance
★3 (first term, 3-0-0). Cost accounting and budget applications in health and welfare service agencies. Methods of formulating and implementing organization policy in the context of contemporary health and welfare financial structures and policies.

H S A 551 Problems and Issues in Health Services Finance
★3 (second term, 3-0-0). Critical analysis of selected issues and problems in health and welfare services finance.

H S A 560 Systems Analysis and Planning in Health Services Administration
★3 (first term, 3-0-0). Systems approach and management science, classification of patients and hospitals, hospital service population, survey designs and forecasting methods.

H S A 561 Operations Analysis and Planning in Health Services Administration
★3 (second term, 3-0-0). Operations research in the health care field: decision analysis, mathematical programming as applied to resource allocation and scheduling, elements of games theory as related to labour relations; queuing models and simulation techniques in planning and administration of health care delivery.

H S A 570 Health Care Economics
★3 (first term, 3-0-0). Methods of allocating resources to the health care sector of the economy. The role of individuals and organizations in the decision process.

H S A 571 Problems and Issues in Health Care Economics
★3 (second term, 3-0-0). Critical review and discussion of contemporary issues and problems in Canadian health care economics.

H S A 599 Research Practicum
★6 (Intersession, May 1 - Aug. 31). A four month research experience practicum supervised by the faculty.

H S A 600 Seminar on Policy and Planning Issues in Canadian Health and Social Services
★3 (first term, 0-3s-0). Canadian health and social service policy and planning issues are analyzed in an international context.

H S A 601 Project on Policy and Planning in Canadian Health and Social Services
★3 (second term, 0-3s-0). A field project devoted to the development of a long-term strategic plan for a health or social services agency.

H S A 610 Individual Directed Reading and Research
★3 (either term, 0-3s-0). Prerequisite: consent of department. May be repeated.†

204.39.6 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department for further information.

H S A 300 Health Care in Modern Society
★3 (either term, 3-0-0). An introduction to the structure and functions of the modern health care system.†

H S A 310 Hospital Organization and Management
★3 (either term, 3-0-0). An introduction to the principles and problems of organization and management of the modern hospital.†

H S A 350 Accounting and Finance in Health Service Agencies
★3 (either term, 3-0-0). An introduction to the principles and methods of accounting and finance in health and welfare organizations.†

H S A 351 Managerial Accounting in Health Service Agencies
★3 (either term, 3-0-0). The utilization of accounting and financial data for optimizing the efficiency and effectiveness of health services.†

H S A 410 Hospital Organization and Management
★3 (second term, 3-0-0). The historical, contemporary, and emergent structure, functions, and problems of the hospital as a community health resource.†

H S A 411 Medical Care Administration
★3 (second term, 3-0-0). The development of modalities for the delivery of medical care and their contemporary and emergent structure, functions, and problems.†

H S A 412 Social Welfare Administration
★3 (second term, 3-0-0). An introduction to the structure and functions of social welfare programs.†

H S A 451 Application of Managerial Accounting to Health Service Agencies
★3 (second term, 3-0-0). A review of budgeting and cost control techniques in health and welfare service agencies.†

H S A 500 Advanced Problems in Health Care Delivery
★3 (first term, 3-0-0). Critical analysis of contemporary policy problems and emerging trends in the structure of the health and welfare delivery system in Canada.†

H S A 511 Special Seminar in Health Services Administration
★3 (second term, 0-3s-0). Selected topics in quantitative methods as applied to research in health services administration.†

H S A 521 Advanced Health Services Administration
★3 (second term, 3-0-0). A study of the application of principles and procedures reviewed in H S A 520 to problems of health service management.†

H S A 630 Quantitative Techniques in Health Services Planning and Evaluation I
★3 (first term, 3-0-0). The application of quantitative techniques to the planning and evaluation of health services with particular emphasis on intra-institutional problems.†

H S A 631 Quantitative Techniques in Health Services Planning and Evaluation II
★3 (second term, 3-0-0). Application of quantitative techniques to the planning and evaluation of health services with particular emphasis on inter-institutional and systematic problems.†

204.40 History

Department of History
2-28 Tory Building
University of Alberta
Edmonton, Alberta T6G 2H4

204.40.1 General Information

The Department of History offers instruction leadin to the degrees of Master of Arts and Doctor of Philosophy.

MA programs are offered in several fields of Africa Asian, British, Canadian, European, Latin American an United States history. PhD programs are offered in certai areas of these fields in which adequate library resource and supervision are available.

The application deadline for September admission i June 15. Applicants seeking assistantships are required t submit complete applications no later than April 1.

Entrance Requirements:

The Department's minimum admission requirement are an undergraduate degree with an average of 7.0 in th last two years of undergraduate work (or graduate work) a the University of Alberta, or an equivalent qualificatio from a recognized institution, and a TOEFL score of 58 where applicable (see §202.2.2).

All candidates for the MA and all provisional candidate for the PhD must demonstrate competence in reading language other than English by passing an examinatio administered by the Department. For all graduate student specializing in Canadian history the language must b French; the specific language requirement for others wi be decided in consultation with the student's supervisor. I addition, the Department expects every candidate for a advanced degree to be proficient in any language o languages necessary for carrying out the candidate's thesis research. A candidate for the MA must satisfy th language requirement before being permitted to procee to the thesis examination; a provisional candidate for th PhD must satisfy the language requirement before bein permitted to take the candidacy examination. Exemption from language examinations may be granted under certai specific conditions. Further details on languag requirements are found in the departmental brochur "Higher Degrees in History", available from the Departmen

Financial Assistance:

The Department annually appoints a number o graduate research and teaching assistants. Graduat students in history are also eligible for various Universi fellowships and bursaries. For details see the Award section of this Calendar.

Application forms, information about fellowships, bu saries, etc., may be obtained from the Chair, Graduat Studies Committee, Department of History.

204.40.2 The Degree of MA

Entrance Requirements:

A student holding a four-year Honors or special BA history from the University of Alberta, or a comparabl degree from another university, may be admitted to th status of candidate for the MA degree. A student wh lacks the above qualification, but who holds an acceptabl bachelor's degree (or its equivalent), may be admitted as qualifying graduate student; as such, the student will b expected to complete additional courses before proceedin to the MA program proper.

A student admitted as a qualifying graduate studen must normally take 30 units of course weight, at least 18 which are history courses, and must attain a grade poi average of 7.0, with no single grade below 6. The course will usually be senior undergraduate courses at the 300 400-level, chosen in consultation with the Chair of th Department's Graduate Studies Committee. Advancemen to candidacy status may be delayed until the student ha passed the language examination.

Program Requirements:

There are two programs available to the studen admitted to the MA in History. Either may be subsequent used as a qualification for application to the PhD program Students must declare which program they intend to follo at the beginning of their graduate studies. Any studen wishing to change their program must seek the approval the graduate committee. Such approval is not normally be expected without compelling reason.

(1) **Thesis MA**

A student entering this program must:

a. take and pass two of HIST 601 ★3, 603 ★3, 60 ★3, or 605 ★3 if the student does not alread have credit in an equivalent course or course acceptable to the Department.

b. take and pass HIST 609 ★3.

c. take and pass three additional 600-level ★3 courses. With the approval of the student's supervisor and the graduate committee arrangements may be made for the student to obtain credit for a maximum of six units of course weight in another department (excluding courses taken to achieve second language proficiency).

d. pass a language examination administered by the Department if this has not been already done.

e. write a thesis, the text of which should normally be not more than 100 pages in length.

The student should take two, and no more than three, units of course weight in the area of concentration most relevant to the student's thesis.

2) **Course-based MA**

A student entering this program must:

a. take and pass two of HIST 601 ★3, 603 ★3, 604 ★3, or 605 ★3 if the student does not already have credit in an equivalent course or courses acceptable to the Department.

b. take and pass an additional 18 units of course weight at the 600-level, no more than six of which may be from any one area of concentration. Arrangements may be made for the student to obtain credit for a maximum of six units of course weight in graduate courses in another department (excluding courses taken to achieve second-language proficiency).

c. pass a language examination administered by the Department if this has not already been done.

d. complete a research paper (HIST 900) equivalent to six units of course weight, which normally should not exceed 50 pages in length but which should reflect a significant use of primary research. The paper will be assessed by two readers normally from within the Department.

e. it is expected that this degree will be completed in one to two years and the Department will normally provide supervisory services for a maximum of two registrations in the project.

Successful completion of the MA program does not guarantee admission to the doctoral program. Students wishing to go on to a PhD must make formal application.

Additional information on language requirements for the degree of MA are outlined above, under "General Information."

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MA will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of 12 months is normally required.

204.40.3 The Degree of PhD

Entrance Requirements:

A student proposing to enter a PhD program is expected to hold an acceptable MA degree or its equivalent. In exceptional cases a student admitted as a candidate for the MA may subsequently be permitted to enter the PhD program without writing a master's thesis.

Program Requirements:

All students proposing to proceed to the PhD are admitted initially as provisional candidates. A provisional candidate must:

(1) take and pass 12 units of course weight in 600-level history courses;

(2) take and pass two of History 601 ★3, 603 ★3, 604 ★3, 605 ★3 if the student does not hold credit in equivalent courses acceptable to the Department;

(3) pass a graduate language examination administered by the Department, if the student has not previously done so. In addition, the student may be required to pass a second language examination, but the Department never requires any student to pass examinations in more than two languages other than English;

(4) submit a thesis proposal of five to eight pages based on some preliminary research.

When a provisional candidate has completed the requirements outlined above (normally not later than 18 months after entering the program), the candidate will be expected to pass written comprehensive examinations in two fields. The comprehensive examination in each field will consist of two three-hour parts which must be written within five days of each other. One part will test the student's knowledge of the general field; the other will test the student's depth of knowledge in a special area of that field, defined in advance in consultation with the student's supervisory committee. These examinations are administered during two periods each year, in September or October and in March or April.

If the provisional PhD candidate passes written comprehensive examinations in both fields, the candidate will be permitted to proceed to the oral candidacy examination. The two written examinations and the oral examination must all be attempted within the space of one month. Upon successful completion of the oral examination, the student will be advanced to formal candidacy for the PhD.

A student who has been admitted to candidacy for the PhD may proceed to the degree by completing a thesis, the text of which should normally be not less than 250 nor more than 400 pages in length.

The minimum period of residence for the PhD is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research undertaken; however, four to six years are normally required.

204.40.4 Graduate Courses

Previous study in the area is prerequisite for each course.

THES 900 Thesis
THES 999 Thesis
HIST 900 ★6 Directed Research Project.

HIST 550 Advanced Topics in Historical Study
★3 (either term, 0-3s-0).

HIST 600 Conference Course
★6 (0-3s-0).

HIST 601 Philosophy of History and Methodology
★3 (either term, 0-3s-0).

HIST 603 History of Historical Writing
★3 (either term, 0-3s-0).

HIST 604 The Application of the Social Sciences to History
★3 (either term, 0-3s-0).

HIST 605 Topics in the Nature of Historical Controversy
★3 (either term, 0-3s-0).

HIST 607 Methods of Quantification for Historians
★6 (0-3s-0).

HIST 609 Directed Study
★3 (either term, 0-3s-0). This is a credit/fail course. Not open to students in the non-thesis program.

HIST 613 Selected Aspects of Later Medieval France
★3 (either term, 0-3s-0).

HIST 616 Power Politics in Germany and Its Neighboring States
★3 (either term, 0-3s-0).

HIST 618 French Revolutions, 1789-1871
★3 (either term, 0-3s-0).

HIST 619 France During the Second World War
★3 (either term, 0-3s-0).

HIST 620 Urbanization in Modern France
★3 (either term, 0-3s-0).

HIST 622 European International Relations Since 1870
★3 (either term, 0-3s-0).

HIST 630 Problems in Imperial Russian History
★3 (either term, 0-3s-0).

HIST 633 Socialism and Nationalism in Eastern Europe
★3 (either term, 0-3s-0).

HIST 640 Rural Society in Medieval England
★3 (either term, 0-3s-0).

HIST 643 The Institutional and Legal History of Early-Modern England
★3 (either term, 0-3s-0).

HIST 645 Britain: The First Industrial Nation
★3 (either term, 0-3s-0).

HIST 647 The Scottish Enlightenment
★3 (either term, 0-3s-0).

HIST 648 Revolution and Imperial Expansion in Hanoverian Britain
★3 (either term, 0-3s-0).

HIST 651 The History of the Development of American Indian Policy
★3 (either term, 0-3s-0).

HIST 655 Slavery and Anti-Slavery in the United States
★3 (either term, 0-3s-0).

HIST 659 American National Security Policy and Relations with Canada from the Second World War to the Cold War
★3 (either term, 0-3s-0).

HIST 663 Change and Continuity in the Pre-Settlement West
★3 (either term, 0-3s-0).

HIST 666 Social and Intellectual History of British North America
★3 (either term, 0-3s-0).

HIST 669 Topics in the History of Canadian Regionalism
★3 (either term, 0-3s-0).

HIST 671 Social Conditions and Social Welfare in Canada since 1867
★3 (either term, 0-3s-0).

HIST 674 Topics in the History of French Canada
★3 (either term, 0-3s-0).

HIST 676 Social and Cultural History of Canada Since 1918
★3 (either term, 0-3s-0).

HIST 678 History of Crime in Selected Western Societies Since 1500
★3 (either term, 0-3s-0).

HIST 681 Documentary Chinese for Historians
★6 (0-3s-0). Prerequisite: Previous training in the Chinese language and consent of department.

HIST 685 Tradition and Modernity in Asia
★3 (either term, 0-3s-0).

HIST 686 Peasant Movements in Asia
★3 (either term, 0-3s-0).

HIST 687 Modern Japan and the World
★3 (either term, 0-3s-0).

HIST 689 Documentary Japanese for Historians
★6 (0-3s-0). Prerequisite: Previous training in the Japanese language and consent of department.

HIST 691 Topics in Latin American History to 1850
★3 (either term, 0-3s-0).

HIST 692 Topics in Latin American History Since 1850
★3 (either term, 0-3s-0).

HIST 695 Slavery in Africa
★3 (either term, 0-3s-0).

HIST 699 Research Seminar
★3 (0-1.5s-0).

HIST 800 Conference Course
★6 (0-3s-0). Not open to graduate students in the Department of History.

HIST 850 Advanced Topics in Historical Study
★3 (either term, 0-3s-0). Not open to graduate or honors students in the Department of History.

204.41 Immunology

Department of Immunology
860 Medical Sciences Building
University of Alberta
Edmonton, Alberta T6G 2H7

204.41.1 General Information

The Department of Immunology offers programs leading to the degrees of Master of Science and Doctor of Philosophy. The latter is offered as part of the PhD in medical sciences interdisciplinary program (see §204.49). Both programs require course work, completion of a research project and preparation of a thesis.

The staff of the Department of Immunology is currently carrying out research in various aspects of cellular, molecular, reproductive and tumor immunology. These include Immunoregulation, T cell recognition, T cell activation and deletion, regulation of T cell receptor gene expression, bone marrow transplantation, autoimmune diabetes, heamotopoiesis, carbohydrate tumor antigens, immunoregulation in myeloma patients, transplantation (MHC) antigens, analysis of T cell receptor usage and immunodominant epitopes on protein antigens, signal transduction and adhesion molecules, cytokines and their role in immunoregulation, maternal-fetal interaction, macrophage production, and B cell activation.

The Department is well equipped with the modern facilities required for immunological research. These include facilities for tissue culture, radioactive, biohazard and biochemical work, computing facilities, and a departmental library. Various laboratories in the Department also use molecular cloning, peptide synthesis, high pressure liquid

chromatography, ultra-centrifuges, cell counters, X-ray radiation machine, fluorescence activated cell sorter, spectrophotometers, etc.

Prospective candidates should consult the Chair or the Graduate Coordinator for further information.

Entrance Requirements:

The Department generally does not accept students with less than an honors grade (7.0 at the University of Alberta) in their undergraduate degree, or an equivalent qualification from another recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2). GRE scores are also considered in some circumstances in addition to the above requirements.

Financial Assistance:

Students accepted into a graduate program are encouraged to apply for studentships through the Department to outside agencies such as the Medical Research Council, the Alberta Heritage Foundation for Medical Research, CIDA, the National Cancer Institute, etc. In addition, a very limited number of graduate assistantships are available from the Department.

204.41.2 The Degree of MSc

Program Requirements:

All graduate students must first register as MSc candidates. Course requirements depend on the area of specialization and the undergraduate background of the student; however, all students are required to take IMMUN 500 and 501 for credit. Neither of these two courses can be audited unless approved in writing by the Department Chair. Additional courses offered by this and other departments may be included in a student's program if the student's supervisory committee so desires. In addition, each student is required to present a research seminar and a presentation to the Journal Club, once each year, on topics of current scientific interest.

A candidate for the MSc degree must submit an acceptable thesis and defend it orally before a committee formed according to Faculty of Graduate Studies and Research guidelines.

No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

Normally, a minimum of three years of study and research is required for the MSc degree.

204.41.3 The Degree of PhD

Program Requirements:

All graduate students in the Department of Immunology must first register as MSc candidates. At an appropriate time the student's supervisory committee will make recommendations to the Medical Sciences PhD Committee concerning the elevation of the candidate to the PhD program. Course requirements depend on the area of work and the academic background of the student. All students are usually required to take 15 units of course weight in graduate courses (400- or 500-level) for credit. Additional courses offered by this or other departments may be required if recommended by the Medical Sciences PhD Committee. All students must take IMMUN 500 and 501 for credit as part of their course work. None of these courses can be audited without the written permission of the Department Chair. In addition, each student is required to present, at least once each year, (a) a research seminar and (b) a discussion of research publications in the Journal Club on topics of current scientific interest.

A candidate for the PhD degree must submit an acceptable thesis and defend it orally before a committee formed according to Faculty of Graduate Studies and Research guidelines. The candidate will also be required to present a final seminar describing the candidate's research project to the Department.

There is no language requirement for the PhD.

The minimum period of residence is three academic years of full-time attendance at the University of Alberta.

Length of Program:

Normally, a minimum of four years of study and research are required for the PhD degree.

204.41.4 Graduate Courses

THES 900 Thesis
THES 999 Thesis

IMMUN 500 Basic Immunological Principles
★3 (first term, 3-0-0). A survey course consisting of lectures based on original factual and theoretical literature. Topics include the origin of antibody diversity, receptors on B and T cells, humoral and cell-mediated immunity, activation of lymphocytes, cellular collaboration, positive and negative regulatory mechanisms in immunity, phylogeny and ontogeny, self tolerance, unresponsive states, major histocompatibility complex antigens, autoimmunity, transplantation, and immunogentics. Offered alternate years. Prerequisite: IMMUN 450 or consent of Department.

IMMUN 501 Current Concepts in Immunology
★3 (second term, 0-3s-0). Lecture and seminar course on three to four areas of immunology of current interest based on original literature. The course will emphasize interpretation of published evidence based on theoretical models in the literature and will involve student participation. Offered sequentially with IMMUN 500 in alternative years. Prerequisite: IMMUN 500 or consent of department.

IMMUN 502 Selected Topics in Immunology
★3 (either term, 2-1s-0). Lecture and Seminar course covering a particular area of Immunology in depth. Offered in alternate years. Prerequisite: IMMUN 500 or consent of Department.

204.42 Interdisciplinary Courses

Courses listed below are the joint concern of more than one department. Instruction will be offered by members of one or more departments or faculties listed. The department responsible is indicated. For additional information please consult this department or other participating departments.

INT D 407 Intermediary Metabolism
★3 (first term, 3-0-0). A detailed description of enzymatic reactions in biosynthetic pathways of carbohydrate, amino acid, vitamin and coenzyme metabolism, emphasizing interrelationships among microbial and animal cells. Offered in alternate years. Prerequisite: BIOCH 301 and MICRB 311. [Microbiology]

INT D 421 Peatlands
★3 (first term, 3-0-3). Climatic, geologic and hydrologic factors of peatland development; ecosystem dynamics of peat formation including flora and fauna, biogeochemical cycles, and energy fluxes; stratigraphy and evolution; classification; utilization in forestry, agriculture, horticulture and as fuel. Two one-day field trips on Saturdays. Offered in alternate years. Prerequisite: A 100-level or higher ecology course and a 300-level Soils course. (Offered jointly by the Departments of Botany and Soil Science.) [Soil Science]

INT D 443 The Soviet North and Siberia: Native Communities
★3 (either term, 3-0-0). The economy, political administration, and the social development of the native peoples of Siberia and the Soviet North. Prerequisite or corequisite: An area-related course in one of Geography, Political Science, Economics, or consent of department of Slavic and East European Studies. (Other participating units normally include the Departments of Anthropology, Economics, and Geography). [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

INT D 444 Ukraine
★3 (either term, 3-0-0). Major social, economic, political, and cultural trends in the Ukrainian SSR in the post-World War II period. Prerequisite or corequisite: An area-related three-weight course in one of geography, history, political science, or Ukrainian, or consent of department of Slavic and East European Studies. (Other participating unit normally includes the Department of History). [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

INT D 445 Poland
★3 (either term, 3-0-0). The political, social, economic, and cultural developments in post World War II Poland. Prerequisite: INT D 346, or POLSH 304, or equivalent, or demonstration to the Department of Slavic and East European Studies of sufficient background in the area. (Other participating units normally include the Departments of Economics, Fine Arts, Geography and Sociology). [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

INT D 447 Soviet Political Thought
★3 (either term, 3-0-0). Consideration of Russian and Soviet critical political thought, and current discussions in the USSR and abroad on a wide range of political topics, from the organizaitoh of state power, interpretations of the history of the USSR and its ideology, to people's rights and freedoms, to nationality issues, and other current political problems. Prerequisite: A course in the Soviet/Russian area, or permission of Instructor. Note: Not to be taken by students with credit in INT D 447 (Soviet Dissent). (Offered jointly by the Departments of Political Science and Slavic and East European Studies). [Slavic and East European Studies].

INT D 455 Molecular Plant Development
★3 (second term, 3-0-0). Recent advances in plan molecular biology will be introduced through a study c plant development at the molecular level. The cours will examine how developmental processes can be use as model systems to study gene expression in highe plants. Both developmental regulation and stress ir duced alteration of gene expression will be covere using specific examples. Prerequisite: BOT 382 or P SC 301. GENET 270 recommended. Offered in alternat years (Offered jointly by the Departments of Botany an Plant Science.) [Botany].

INT D 456 Rural Social Problems and Public Policy
★3 (either term, 3-0-0). Social problems in Canadia rural life; analysis of policy making processes related t these problems. Prerequisite: Consent of instructo INT D 356 recommended. (Offered jointly by the Depar ments of Rural Economy and Sociology.) [Rural Economy

INT D 458 Socioeconomic Development of Western Canadian Agriculture
★3 (first term, 3-0-0). The economic and social origins c Western Canadian agricultural development. A chrono logical examination of farm and political organization and other agrarian social movements influencing th farming sector. The growth of public policy and develop ment of the institutional framework supporting agriculture Discussion of past and present issues in Western Cana dian agricultural development, including such factors a land settlement, transportation and farming support services Prerequisite: R SOC 355, or one of SOC 100 or 300 (Offered jointly by the Departments of Rural Economy and Sociology.) [Rural Economy]

INT D 460 Heritage Interpretation Field Trip
★3 (either term, 0-2s-6). Extended field trip to examin comparatively the philosophies, approaches and applie methodologies of a diverse range of institutions an agencies engaged in the practice of heritage interpreta tion. Prerequisite: Consent of instructor. (Offered jointl by the Departments of Forest Science and Recreation and Leisure Studies. [Forest Science]

INT D 464 Northern Studies
★3 (second term, 3-0-0). An examination of curren environmental research in the Canadian North. Semi nars are presented by government and industry profes sionals engaged in various facets of northern research Prerequisite: GEOG 466 or ZOOL 466. Corequisite: GEOG 466 or ZOOL 366. (Offered by the Canadian Circumpolar Institute and the Department of Geogra phy.) [Geography]

INT D 465 Natural Resource Utilization
★3 (either term, 3-0-0). Economics of utilizing and conserving land, water and energy resources in Agricul ture and Forestry. Prerequisite: INT D 365. [Rural Economy

INT D 467 Methods of Heritage Interpretation
★3 (either term, 3-3s-0). Application of principles o interpretation of natural and historic resources. Focus on management techniques and development of inter pretative programs. Case studies and field trip. Prereq uisite: Consent of instructor; INT D 466 recommended as complementary. (Offered jointly by the Department of Forest Science and Recreation and Leisure Studies. [Forest Science]

INT D 468 Principles of International Humanitarian Law
★3 (either term, 3-0-0). Historical background; humani tarian intervention; human rights; law of war; interna tional criminal law. Prerequisite: Consent of Faculty o Law or Department of Political Science. [Political Science]

INT D 479 Honors Thesis
★3 (either term, 3-0-0). Directed Honors thesis re search. Note: Required of all BA (Honors) Students majoring in Slavic and East European Studies who are in their final year of study.

INT D 486 Livestock and Meat Marketing
★3 (second term, 3-0-1). Marketing problems, potentials and principles studied through in-depth analysis of the red meat industry. Prerequisite: AG EC 384. Note: Limited enrollment, preference given to fourth year agricultura students. (Offered jointly by the Departments of Rura Economy and Animal Science.) [Rural Economy]

INT D 499 Conference Course (Soviet Union and Eastern Europe)
★3, or ★6 (either term, 3-0-0). Seminar for advanced students in Slavic and East European Studies designed to introduce fundamental questions in the field. [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

INT D 510 Lipid and Lipoprotein Metabolism
★3 (second term, 3-0-0). An advanced course which focuses on the metabolism of lipids and lipoproteins in eucaryotic cells and animal systems. Topics to be covered include regulation of fatty acid, triacylglycerol, phospholipid, cholesterol, sphingolipid 4nd lipoprotein metabolism. In addition, the assembly of lipids and

oteins into membranes and lipoproteins, secretion of poproteins, the dynamics of lipoproteins in circulation d the role of lipids and lipoproteins in atherosclerosis ill be covered. Prerequisite: BIOCH 301 or equivalent. ffered in alternate years.

T D 540 Seminar on Comparative, Legal, onstitutional, and Federal Studies
6 (0-3s-0). Prerequisite: Consent of department. (Offered jointly by the Departments of History and Political cience.) [Political Science].

T D 543 Current Problems in Neuroendocrinology
3 (second term, 3-0-3). Discussion of selected topics neuroendocrinology. Credit for this course may be btained more than once. Offered alternate years. Prerequisite: ZOOL 343 or PHYSL 401.

T D 544 Physiology of Reproduction
3 (second term, 3-0-0). [Zoology]

T D 545 Physiology of Transport Systems
3 (second term, 3-1s-0). A consideration of trasnport echanisms primarily from the physiological rathern han biochemical viewpoint. Major models considered re the vertebrate erythrocyte and avariety of epithelia rom vertebrates and invertebrates. Designed for adanced undergraduate and graduate students. Offered n alternate years. Prerequisite: PHYSL 310 or 352 or OOL 241 or 242. [Physiology]

T D 546 East European and Soviet Studies
*6 (3-0-0). An interdisciplinary seminar. (Offered jointly by the Departments of Slavic and East European Studies, Comparative Literature, Economics, Geography, History, Political Science, Sociology.) [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

T D 551 Advanced Plant Biochemistry
*3 (second term, 3-0-0). Selected topics in plant metabolism, with particular emphasis on mitochondrial electron ransport, phosphorylation, and recent advances in carbon assimilation. Evaluation of current research and methods of investigation in these fields. Offered in alternate years. Prerequisite: Consent of instructor; BIOCH 301 or PL SC 331 and 432. (Offered jointly by the Departments of Botany and Plant Science.) [Plant Science]

T D 594 Quaternary Environments
*6 (3-0-0). A comprehensive survey of the Quaternary period; dating methods, paleoclimates, vertebrates, case studies in stratigraphy and paleoecology. Note: Not open to students with credit in ANTHR 594. Prerequisite: GEOL 492 or GEOG 432 or a related 400-level course in Anthropology, Botany, Geology, Zoology, Forest Science or Soil Science. (Offered jointly by the Departments of Anthropology and Geology). [Geology].

T D 653 Regionalism and Urban Planning
*3 (either term, 3-0-0).

204.43 Law

Faculty of Law
4th Floor, Law Centre
University of Alberta
Edmonton, Alberta T6G 2H5

204.43.1 General Information

The Faculty of Law offers programs of graduate study leading to a master's degree and a postgraduate diploma in laws. The Faculty also offers programs of joint study with the Faculty of Business leading to a combined MBA-LLB or MPM-LLB program.

Entrance Requirements:

The minimum admission requirements of the Faculty of Law are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2). Specific requirements are found below, under the appropriate degree heading.

Financial Assistance:

Financial assistance, including intersession term graduate fellowships, may be available to suitably qualified candidates. Such assistance will involve candidates in the performance of certain teaching or research duties in the Faculty of Law, although such duties will not impede candidates in the pursuit of their own studies.

The Honourable ND McDermid Graduate Scholarships in Law in the amount of $10,000 each are available to two graduate students based upon academic excellence and proven ability in their area of study.

In addition, the University of Alberta offers certain scholarships to candidates of sufficiently high academic merit.

Inquiries regarding programs, courses and financial assistance other than University scholarships should be made to the Director of Graduate Studies, Faculty of Law.

204.43.2 The Degree of LLM

Entrance Requirements:

Applicants for this program must hold the degree of LLB or its equivalent from this or some other university, of sufficient standard to satisfy the Graduate Studies Committee of the Faculty of Law that they will be capable of undertaking and profiting by the program.

Program Requirements:

All candidates must complete at least one academic year (ie., normally one academic session from September to May) in residence at the University. To obtain the degree of Master of Laws, candidates must submit and defend a thesis on a topic selected in consultation with the candidate's supervisor and with the approval of the Chair of Graduate Studies. In addition each candidate will attend courses throughout the academic session, the number and character of such courses to be determined in consultation with the Director. Candidates may select courses from a broad spectrum of legal subjects offered in the Faculty of Law, as well as relevant subjects in other faculties.

Length of Program:

The time required to complete the LLM will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of 12 months is required, and candidates must complete requirements within four years. Extensions may be granted in exceptional circumstances.

204.43.3 MBA-LLB Joint Program and MPM-LLB Joint Program

The Faculty of Business and the Faculty of Law offer a program of joint study which permits students to earn both the MBA and LLB degrees or the MPM and LLB degrees in four years.

Students in the first year of either the regular MBA or MPM program or the Faculty of Law, as well as new entrants, are eligible to apply for the joint program.

Entrance Requirements:

Each student must apply separately to the Faculty of Law and to the Faculty of Graduate Studies and Research (the latter for admission into the MBA or MPM program).

In addition, each student must apply to the combined program by completing a special MBA-LLB or MPM-LLB application form available from the Faculty of Law or the Faculty of Business.

Acceptance by the Faculty of Graduate Studies and Research (for admission into the MBA or MPM program) and by the Faculty of Law (for admission into the LLB program) separately, is a prerequisite to admission into the MBA-LLB or MPM-LLB program. Admission into each faculty will be determined by the same selection process and criteria as for other students. In addition, each student must be admitted into the combined program; in this case admission will be determined by a selection committee composed of representatives of the Faculty of Law and the Faculty of Business. Since this is a special program, particular attention in the selection process will be given to:

(i) a student's past academic achievement; and

(ii) the candidate's maturity, interest, and rationale on how such a combined program will enhance the candidate's career and professional skills.

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student. The Law portion of the program consists of approximately 75 hours of course work. In addition, candidates are required to complete course work in the Faculty of Business and to prepare a thesis or research project on an approved topic.

Except in special cases, no language other than English is required for the degree.

Length of Program:

The time required to complete the combined program will vary with the individual candidate; however, a minimum of four years is normally required.

204.43.4 Graduate Courses

Graduate Studies Seminar

During the first term beginning in September, LLM students will be enrolled in the graduate studies seminar. The seminar will provide an advanced analysis of different orientations to doctrinal, empirical, and fundamental research. It will provide the participans with an opportunity to study and respond to current debates about the nature of legal scholarship and to exchange ideas on their own developing theoretical and technical approaches to a legal topic.

Other Courses:

In addition to the Graduate Studies Seminar, students may take courses offered in the Faculty of Law, and related disciplines, which have been selected by a candidate in consultation with his or her supervisor, and which have the consent of the Director.

204.43.5 Postgraduate Diploma Program

The postgraduate diploma program offered by the Faculty of Law during the fall and winter terms may be of interest to members of Canadian law societies and other legally qualified persons.

The program was designed to provide an extensive exposure to a limited area of the law and to help prepare candidates as specialists in that area. The program will also provide candidates with an opportunity to become familiar with the most modern developments and to bring practitioners and other members of the legal profession up to date.

The following are the subject areas in which a diploma in law may be earned:

(1) criminal law
(2) land use planning
(3) the law of oil and gas
(4) international law
(5) public law
(6) the law of taxation
(7) antitrust and combines law
(8) labor law
(9) commercial law
(10) divorce and matrimonial causes
(11) constitutional law
(12) the law of torts
(13) health law

Inquiries regarding programs, courses and admissions should be made to the Faculty of Law.

Entrance Requirements

Applicants for the diploma program must hold the degree of LLB or its equivalent from an approved university and must have had a minimum of two years experience in the practice of law or in a related field. Admission to the program will be determined by the Faculty of Graduate Studies and Research in consultation with the Committee of Postgraduate Diploma Studies of the Faculty of Law.

Program Requirements:

The diploma program requires the satisfactory completion of a minimum of six units of course weight and a research paper, which must be of a calibre suitable for publication in a law journal. The six units of course weight will normally be single-term courses offered by the Faculty of Law, selected through consultation between the candidate and the Chair of the Postgraduate Diploma Studies Program. The courses normally should reflect a concentration in one area of the law.

Candidates for the postgraduate diploma will not normally be permitted to take courses they completed for the degree of LLB. This will apply to graduates of other universities as well as to graduates of the University of Alberta. With the permission of the Chair and Committee on the Postgraduate Diploma Program, however, a candidate may be permitted to take certain courses (e.g., taxation, land use planning) where the content has changed significantly since the candidate completed his or her LLB degree.

No language other than English is required for the diploma.

Length of Program:

The time required to complete the diploma program will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of one year is normally required, and candidates must complete all the requirements within four years.

204.44 Library and Information Studies

Faculty of Library and Information Studies
3-20 Rutherford South
University of Alberta
Edmonton, Alberta T6G 2J4

204.44.1 General Information

The Faculty of Library and Information Studies offers the Master of Library and Information Studies degree, and is the only such professional program in the prairie provinces. The MLIS program was accredited by the Committee on Accreditation of the American Library

Association in 1970, 1979, and again in 1986, and is recognized by the American and Canadian Library Associations.

As the first professional degree, the MLIS is a program designed to develop the knowledge, understanding, attitudes and skills that will prepare graduates for positions of responsibility in academic, public, school and special libraries and throughout the information industry.

The Faculty of Library and Information Studies maintains a Library/Laboratory which provides space for individual and small group study. The Library houses print and non-print materials reserved for specific courses of study, representative materials for children and young adults, library annual reports and selected index, acquisition, reference tools, and software.

The Lab also has a variety of computer terminals and microcomputers, which are available to faculty members and students for instruction, research and demonstration, using both the University's computing facilities and external databases. Access is provided to external services such as Dialog, Orbit, UTLAS, CAN/OLE, ENVOY, and others.

Entrance Requirements:

An applicant with a four-year undergraduate degree from the University of Alberta, or a comparable degree from another accredited university, who has obtained a minimum grade point average of 6.5 (or its equivalent) in the last two years of academic studies may be admitted as a Category B candidate for the MLIS degree. Applicants who lack these qualifications are advised to make up any deficiency in consultation with the Faculty of Library and Information Studies in order to be considered for admission as a candidate for the MLIS.

All non-Canadians for whom English is not the major language must write and pass satisfactorily either the Michigan English Language Assessment Battery (MELAB) or the Test of English as a Foreign Language (TOEFL), before formal admission is granted (see §202.2.2). The passing score for the MELAB is 90 and for the TOEFL is 600.

Applicants with degrees only from other countries may be required to take the Graduate Record Examination aptitude tests administered by the Educational Testing Service. Students should arrange for the testing agency to report results to the Faculty of Library and Information Studies, which will judge whether or not the results are satisfactory. Acceptable scores are 600 in the Verbal Section, 525 in the Quantitative Section, and 600 in the Analytical Section.

Preference is given to applicants who have had library experience under professional supervision before registration. Such experience tests a candidate's aptitude for library work and provides the candidate with some knowledge of library terminology and processes.

Applicants are judged not only on their academic record but also by their professional promise as indicated in three letters of reference. A personal interview, arranged at a time and place convenient to the applicant, may also be required.

The deadline for application to the Faculty of Library and Information Studies is June 15.

Financial Assistance:

Inquiries regarding program and course details, and financial assistance other than University scholarships should be made to the Dean of the Faculty of Library and Information Studies. Inquiries about University scholarships should be addressed to the Student Awards Office.

204.44.2 The Degree of MLIS

Program Requirements:

The minimum requirement for the MLIS degree is either 39 units of course weight in graduate courses and a thesis, or 48 units of course weight in graduate courses. Students may, with approval, include up to nine units of course weight offered by a Faculty other than the Faculty of Library and Information Studies.

The first term of study, during which 12 units of course weight in required courses are normally taken, must be spent in full-time attendance. A second term of full-time attendance, as defined by the Faculty of Graduate Studies and Research (being nine units of course weight), is required to complete the residence requirement.

Students who cannot enroll in at least nine units of course weight per term (full-time attendance), and whose employment relates directly to their academic studies, may petition the Faculty of Graduate Studies and Research to have the normal residence requirement waived. Petitions must be made through the Dean of the Faculty of Library and Information Studies.

Credit for courses taken elsewhere may be granted as transfer credit by the Dean of the Faculty of Graduate Studies and Research, on the recommendation of the Faculty of Library and Information Studies, provided that the courses have not been counted towards a previous degree or diploma. Students with a BLS degree (or its equivalent) from an accredited library school or its equivalent may be given credit for up to eight three-weight graduate courses.

Length of Program:

A full-time student who is registered for the MLIS program normally will be able to complete the degree requirements in two years. Students with a BLS degree should be able to complete the program work in one year.

204.44.3 Graduate Courses

All the following courses may not be offered each year. Interested students should contact the Faculty of Library and Information Studies for scheduling information. LIS 501, 502, 503 and 504 are prerequisites to the program as a whole.

THES 900 Thesis Topic to be approved by the Faculty of Library and Information Studies. Prerequisite: LIS 505, 597.

THES 999 Thesis Topic to be approved by the Faculty of Library and Information Studies. Prerequisite: LIS 505, 597.

LIS 900 ★3 Directed Research Project Topic to be approved by the Faculty of Library and Information Studies. Prerequisite: LIS 505.

LIS 412 Storytelling
★3 (either term, 3-0-0). To examine the past and present forms of storytelling, including the oral tradition, the function of the storyteller, the selection of material and the techniques of telling stories and listening to stories.

LIS 432 Survey of Children's Literature
★3 (either term, 3-0-0). A survey of literature for children from infancy through the elementary school years. The emphasis is on books currently read by children. Principles of evaluation, children's reading needs and interests, and current issues and trends will be examined. This course is not open to MLIS students.

LIS 501 Introduction to Library and Information Studies
★3 (first term, 3-1s-0). To provide an overview of the historical, current and potential roles of library and information professionals in western society. To introduce the study of environmental factors affecting library and information services. Economic, social, legal, political, technological and professional factors will be examined. Required course.

LIS 502 Organization of Knowledge and Information
★3 (first term, 3-1s-0). To introduce students to the organization of knowledge and information, including bibliographic control, classification, indexing and abstracting. Required course.

LIS 503 Library Materials and Information Services
★3 (first term, 3-1s-0). To understand the function of information services programs, to examine policies designed to build materials collections in support of such programs, and to become familiar with examples of major reference/information sources. Required course.

LIS 504 Management Principles for Library and Information Services
★3 (first term, 3-1s-0). To introduce principles of management applicable to the organization of library and information services. Required course.

LIS 505 Research Methods for Library and Information Studies
★3 (second term, 3-0-0). To develop an ability to understand the nature of research and its methodologies and techniques used in library and information studies. Required course.

LIS 506 Introduction to Automation and Bibliographic Information
★3 (second term, 3-0-1). To provide an introduction to, and an understanding of the general field of automation and its implications for library and information services. Required course.

LIS 511 Adult Materials
★3 (second term, 3-0-0). To develop an awareness of the recreational, educational and professional library and information needs of adults (including the less specialized needs of the high school, college and university communities), and of the materials available to meet the needs.

LIS 512 Information Resources in the Social Sciences
★3 (either term, 3-0-0). To understand the nature, function and communication patterns of the social sciences and to be able to select, organize and effectively use relevant information resources.

LIS 513 Resources in the Humanities and Fine Arts
★3 (second term, 0-3s-0). To examine and to develop an understanding of the nature of the humanities and fine arts, and of the types of library materials and information services necessary to support scholarship, research, and general information-seeking in these disciplines.

LIS 514 Scientific Information Resources
★3 (second term, 3-0-0). To introduce the nature of science and its information resources.

LIS 515 Survey of Materials for Young Adults
★3 (either term, 3-0-0). To survey print and non-print materials for young adults of junior and senior high school age. To examine young adults "reading interests and current trends and issues in young adults" literature.

LIS 516 Canadian Materials
★3 (second term, 3-0-0). To survey, analyze, and examine print and non-print materials available for building Canadiana collections, and to consider issues in the development of such collections.

LIS 517 Government Publications
★3 (either term, 3-0-0). To examine Canadian government publications and to investigate methods of control and dissemination as a model applicable to all political jurisdictions.

LIS 518 Information Materials for Children and Young Adults
★3 (first term, 3-0-0). To survey information materials that children and young adults use and the ways in which these materials are used. Prerequisite: Either LIS 432 or 515.

LIS 519 Introduction to Children's Literature
★3 (second term, 3-0-0). An introduction to literature for children from infancy through the elementary school years. Principles of evaluation and selection will be developed, and current issues and trends will be examined.

LIS 531 Collection Management
★3 (first term, 3-0-0). To develop an analytical approach to collection management including the acquisition, review and evaluation of collections.

LIS 532 Cataloguing and Classification
★3 (either term, 3-0-0). To prepare students to construct a catalogue and to describe and classify various forms of materials for either manual or computerized situations.

LIS 533 Advanced Cataloguing and Classification
★3 (second term, 3-0-0). To prepare students to specialize in cataloguing and classification work in a traditional or computerized setting. Prerequisite: LIS 532.

LIS 535 Indexing and Abstracting
★3 (either term, 3-0-0). To examine the principles and practice of indexing and abstracting in a traditional or computerized centre.

LIS 536 Advanced Information Services
★3 (either term, 3-0-0). To consider the varied means used to disseminate information, and to become familiar with more advanced types of information sources.

LIS 537 Management of Information Technology
★3 (first term, 3-0-1). To identify areas of library and information operations suitable for computer applications and to evaluate them critically. Emphasis on: microcomputer applications, information technology such as CD-ROM, software evaluation, and installation.

LIS 538 Automation in Libraries and Information Centres
★3 (first term, 3-0-1). To develop students' ability to design and implement typical automated procedures related to library and information studies. Includes computer programming, file organization, and data structures.

LIS 540 School Media Centres
★3 (either term, 3-0-0). To examine the concept and organization of media resource centres in elementary and secondary schools. Prerequisite: Teaching Certificate.

LIS 541 Public Libraries
★3 (second term, 3-0-0). To develop an understanding of public libraries and public library systems, their structure and management.

LIS 542 Academic Libraries
★3 (second term, 2-1s-0). To develop an understanding of the nature and functions of university, community college, and technical college libraries.

LIS 543 Special Libraries and Information Centres
★3 (second term, 3-0-0). To develop an understanding of the special libraries and information centres, their purpose, structure and management with an emphasis on service.

LIS 544 Special Collections Librarianship
★3 (second term, 3-0-0). To develop an understanding of the nature and importance of special collections in libraries, and to consider primary aspects of the administration of such collections.

LIS 545 Management of Human Resources in Library and Information Services
★3 (either term, 3-0-0). To introduce the field of personnel management as an area of critical importance.

LIS 546 Marketing Library and Information Services
★3 (either term, 3-0-0). To develop an understanding of the principles of marketing and public relations for nonprofit organizations with an emphasis on library and information services.

LIS 547 Financial Management of Library and Information Services
★3 (second term, 3-0-0). To provide the student with a

basic understanding of trends and issues in the financial management of libraries and information services as an integral part of the planning and political process.

LIS 548 Library Services to Children and Young People
★3 (second term, 0-0-0). To develop a knowledge of the principles and practices of programming library services for children and young adults. Prerequisite: One of LIS 432 or 515.

LIS 581 Bibliography: Systematic, Historical, Analytical and Descriptive
★3 (second term, 0-3s-0). To study the field of bibliography from intellectual to physical aspects affecting the transmission of the text. Prerequisite: LIS 586.

LIS 582 Contemporary Issues in Library and Information Studies
★3 (first term, 0-3s-0). To consider new and continuing topics of concern or debate in the library and information professions and how they influence information attitudes and programs.

LIS 583 Comparative Librarianship
★3 (first term, 0-3s-0). To develop an understanding of the nature of comparative librarianship as a discipline, and to enable the students to apply principles to practice.

LIS 584 Library and Information Systems and Networks
★3 (first term, 3-0-0). To develop a basic understanding of library cooperation and the management of systems and networks.

LIS 586 History of the Book
★3 (first term, 3-0-0). To describe the historical, esthetic and economic bases of the book and its role in the recording and preservation of information and ideas.

LIS 587 Library Buildings
★3 (first term, 3-0-0). To study various types of library building needs, the involvement of librarians and architects in the planning process, and various contemporary building styles.

LIS 588 Communications
★3 (second term, 3-0-0). To develop an understanding of the communication process and the role of librarians and information professionals.

LIS 591 Publishing
★3 (either term, 3-0-0). To examine the organized business of writing, manufacturing and marketing books and other media.

LIS 593 Archives Administration
★3 (either term, 3-0-2). To develop an understanding of archival records and their role in the preservation of information resources.

LIS 594 Records Management
★3 (either term, 3-1s-0). To develop an understanding of records management.

LIS 597 Advanced Research Methods for Library and Information Studies
★3 (first term, 0-3s-0). In-depth examination of research methodologies relevant to the field of library and information studies and to the research interests of students pursuing doctoral programs, thesis-route master's programs, and other advanced projects.

LIS 598 Special Topics
★3 (either term, 3-0-0). A current topic of significance to, or a special aspect of library and information studies may be examined as demand and resources permit.

LIS 599 Directed Study
★3 (either term, 0-3s-0). To assist students in further study of special topics and issues based on knowledge acquired in previous courses or on significant prior experience. Topic to be approved by the Faculty. Prerequisite: LIS 505.

204.44.4 Cognate Courses in Education

The following courses in the Elementary Education Department of the Faculty of Education are also available as part of the MLIS program:

ED ES 443 School Librarianship
★3 (first term, 3-0-0). Introduction to the philosophy and administration of school library programs. Prerequisite: Successful completion of practicum requirements or teaching experience.

ED ES 541 School Library Collection Development
★3 (either term, 3-0-0). Prerequisite: ED ES 443 or consent of department.

ED ES 543 School Library Programs
★3 (second term, 3-0-0). Focus on cooperative planning and implementation of school library programs. Prerequisite: ED ES 443 or consent of department.

ED ES 546 School Library Information Materials
★3 (either term, 3-0-0). Prerequisite or corequisite: ED ES 443 or consent of department.

ED ES 547 Organization of School Library Materials
★3 (either term, 3-0-2). Prerequisite or corequisite: ED ES 443 or consent of department.

ED ES 548 Directed Study in School Library Research
★3 (second term, 3-0-0). Prerequisite or corequisite: ED ES 443 and 543 or consent of department.

204.45 Linguistics

Department of Linguistics
4-32 Assiniboia Hall
University of Alberta
Edmonton, Alberta T6G 2E7

204.45.1 General Information

The Department of Linguistics offers graduate programs in linguistics leading to the degrees of Master of Science and Doctor of Philosophy. Candidates for either degree may specialize in experimental phonetics or psycholinguistics.

The Department maintains laboratory facilities and extensive instrumentation for a wide range of research in phonetics, psychoacoustics, and psycholinguistics.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 600 where applicable (see §202.2.2).

In addition, candidates must have completed, to the satisfaction of the Department, certain core courses in linguistics or their equivalents. Candidates who lack this preparation may expect to undertake a year of qualifying studies before being admitted to a degree program.

All graduate students are encouraged to develop special interests through attendance at the departmental research seminar and participation in departmental research.

Financial Assistance:

The Department offers a limited number of graduate assistantships. Graduate students are also eligible for various University fellowships, scholarships and bursaries.

Further information concerning programs in linguistics and financial aid may be obtained from the Chair of the Department.

204.45.2 The Degree of MSc

Program Requirements:

Two routes to the MSc are available: a thesis-based and a project-based route.

Requirements for the thesis-based MSc include a minimum of 21 units of course weight plus a thesis. Specific courses must be chosen in consultation with the student's supervisory committee. The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Requirements of the course-based MSc consist of a minimum of 27 units of course weight including four required courses (LING 601, 602, 603, 604) and a directed research project (LING 900). There is no residence requirement.

There is no language requirement for the degree of MSc.

Length of Program:

The time required to complete the MSc will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of two years should be expected.

204.45.3 The Degree of PhD

Program Requirements:

Requirements for the PhD include completion of the MSc degree in linguistics or its equivalent and a minimum of 21 units of course weight plus a thesis. Specific courses must be chosen in consultation with the student's supervisory committee. The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

There is no language requirement for the degree of PhD.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary with the individual candidate; however, a minimum of two years should be expected.

204.45.4 Graduate Courses

THES 900 Thesis
THES 999 Thesis
LING 900 ★3 Directed Research Project

LING 601 Seminar in Phonology and Morphology
★3 (first term, 0-3s-0). Critical examination of selected theoretical issues and related experimental studies in phonology and morphology. Prerequisite: LING 410.

LING 602 Seminar in Syntax
★3 (second term, 0-3s-0). Current issues in functional and experimental syntax. Prerequisite: LING 409.

LING 603 Quantitative Methods in Linguistics
★3 (either term, 3-0-0). Analysis of variance and experimental design in relation to problems in experimental linguistics. Prerequisite: A course in elementary statistics or consent of department.

LING 604 Seminar in Psycholinguistics
★3 (either term, 3-0-0). A review of the broad range of current theories and research in psycholinguistics. Prerequisite: LING 400.

LING 605 Seminar in Experimental Phonetics
★3 (either term, 3-0-0). A survey of the present state of knowledge in speech production and perception. Prerequisite: LING 412.

LING 610 Formal Grammatical Theory
★3 (either term, 3-0-0). Current approaches in formal grammatical theory.

LING 611 Formal Phonological Theory
★3 (either term, 3-0-0). Current approaches in formal phonological theory.

LING 612 Advanced Quantitative Methods in Linguistics
★3 (either term, 3-0-0). Prerequisite: LING 603 or consent of department.

LING 614 Methods in Experimental Phonetics
★3 (either term, 0-1s-3). Theoretical and practical training in experimental phonetics. Emphasis on practical experience with on-going research. Prerequisite: LING 412.

LING 615 Methods in Experimental Psycholinguistics
★3 (either term, 0-1s-3). Theoretical and practical training in experimental psycholinguistics. (Emphasis on practical experience with on-going research). Note: This course should be taken late in the MSc program. Prerequisite: LING 603.

LING 616 Methods in Experimental Phonology
★3 (either term, 0-1s-3). Theoretical and practical training in experimental phonology. Emphasis on practical experience with on-going research. Prerequisite: LING 603.

LING 635 Topics in Psycholinguistics
★3 (either term, 3-0-0). Prerequisite: Consent of department.

LING 636 Analysis of Meaning
★3 (either term, 3-0-0). Prerequisite: Consent of department.

LING 637 Discourse Analysis
★3 (either term, 0-3s-0). An examination of a variety of topics in the area of discourse including discourse structure, pragmatics, discourse-conditioned grammatical alterations, and discourse models. Prerequisite: Consent of department.

LING 643 Language Acquisition
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

LING 645 Linguistic Analysis of Aphasic Language
★3 (either term, 3-0-0). Prerequisite: Consent of department.

LING 647 Typology
★3 (either term, 3-0-0). Topics of current interest in typology. Prerequisite: LING 407 or equivalent.

LING 655 Instrumentation in Experimental Linguistics I
★3 (either term, 3-0-0). Prerequisite: LING 312/412, MATH 117/118 or consent of department.

LING 656 Instrumentation in Experimental Linguistics II
★3 (either term, 0-3s-0). Prerequisite: LING 655 or consent of department.

LING 667 Articulation Control Mechanisms
★3 (either term, 3-0-0). Prerequisite: LING 655/656 or consent of department.

LING 669 Speech Perception Mechanisms
★3 (either term, 3-0-0). Prerequisite: Consent of department.

LING 675 Foundations of Linguistic Theory
★3 (either term, 3-0-0). Prerequisite: Consent of department.

LING 683 Conference Course I
★3 (first term, 0-3s-0).

LING 684 Conference Course II
★3 (second term, 0-3s-0).

204.46 Mathematics

Department of Mathematics
632 Central Academic Building
University of Alberta
Edmonton, Alberta T6G 2G1

204.46.1 General Information

The Mathematics Department offers graduate programs leading to the degrees of Master of Science and Doctor of Philosophy in a number of fields including algebra, approximation theory, classical analysis, continuum mechanics, control theory, combinatorics and graph theory, harmonic analysis, optimization, ordinary and partial differential equations, functional analysis, number theory, relativity, topology, mathematical biology.

Entrance Requirements:

The Department generally does not accept students with an overall grade point average of less than 7.0 in their undergraduate years at the University of Alberta, or an equivalent qualification from another institution. Where applicable (see §202.2.2), a minimum TOEFL score of 575 is required for all graduate students with Teaching Assistantships. Otherwise, the minimum TOEFL score for graduate students without Teaching Assistantships is 550. Additional information on specific requirements for admission to the MSc and PhD programs is found below, under the respective degree headings.

Financial Assistance:

Graduate teaching assistantships are available for candidates working toward a higher degree. They involve at most 12 hours of work per week including teaching, class preparation and working time. All students whose native language is not English or who do not hold a degree from a Canadian, American, or other English-speaking university, will normally be required to take at least one English language course offered by the Faculty of Extension. Assistantships will normally be limited to five years for students in the PhD program and to three years for students in the MSc program. Research grant assistantships are also available.

Prospective graduate students should consult both the Chair of the Department and the staff member in charge of the field in which they are particularly interested.

204.46.2 The Degree of MSc

Entrance Requirements:

Candidates for the MSc must have an Honors degree or equivalent from a recognized university, with a strong background in mathematics. Candidates whose background in mathematics is deemed to be deficient will be required to register as qualifying students and take additional courses.

Program Requirements:

The minimum requirement for the MSc degree is either 18 units of course weight in graduate courses and a thesis, or 24 units of course weight in graduate courses and a project equivalent to six units of course weight. Approval of the Chair of the Mathematics Department is needed to take graduate courses that are not in mathematics.

There is no language requirement for the degree of MSc.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The MSc program will normally be completed in 20 months; however, it can be done in a minimum of one year.

204.46.3 The Degree of PhD

Entrance Requirements:

To be admitted as a provisional candidate for the PhD a student must normally hold the equivalent of the MSc in mathematics from the University of Alberta.

Program Requirements:

In addition to the examinations called for by the general regulations, a qualifying exam must be taken at the end of the student's first year as a provisional candidate. The principal requirement for the PhD is a substantial contribution to knowledge, embodied in a thesis. Except in very special cases every PhD student will be required to take a minimum of 36 units of course weight in graduate courses after the BSc (Honors) degree or equivalent. In any case, six units of course weight must be in mathematics courses at the 500-level or 600-level, in areas other than that of the student's thesis. The program of a full-time student who is a provisional candidate for the PhD shall normally include at least three mathematics courses, or courses in approved or allied fields (graduate or undergraduate) in each term of the first year, at least two in each term of the second year, and at least one in each subsequent term.

Candidates for the PhD degree must satisfy the Department that they have a competent reading knowledge of one of French, German and Russian.

To satisfy the residence requirement for the PhD, candidates must spend at least two years in advanced study and research after the master's degree.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of three years is normally required after the BSc or two years after the MSc.

204.46.4 Programs in Mathematical Physics

The Master of Science and Doctor of Philosophy degrees in mathematical physics may be taken in the Mathematics Department by a student with a good background in both mathematics and physics.

Candidates with an Honors degree in mathematics will be required to complete a thesis or project on some topic in the field of theoretical, rather than experimental physics, or in applied mathematics. The program of graduate courses will be selected in consultation with the Chairmen of the Departments of Mathematics and Physics.

Candidates who have a BSc in the mathematics pattern of the general program, with three or more courses in physics, may be accepted for a two-year MSc program in mathematical physics. The general program requirements of the MSc in mathematics listed above will apply.

204.46.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis
MATH 900 ★6 Directed Research Project

Mathematics

A selection of courses, depending on demand, will be made from the following list:

MATH 500 Theory of Functions of a Complex Variable
★6 (3-0-0). Complex numbers. Complex series. Functions of a complex variable. Cauchy's theorem and the calculus of residues. Integral functions. Conformal representation. The Laplace and Fourier transforms. Note: Only one of MATH 500 and 506/507 may be taken for credit towards a degree. MATH 500 is not open to graduate students in Mathematics. Prerequisite: MATH 401/402 or equivalent.

MATH 503 Special Functions
★3 (either term, 3-0-0). The Gamma and Hypergeometric Functions. The classical orthogonal polynomials, and the Bessel functions. Prerequisite: MATH 412 and MATH 418 or equivalent.

MATH 504 Integral Transforms
★3 (second term, 3-0-0). An introduction to the Laplace, Fourier, Mellin, and Hankel Transforms with a survey of their basic properties and certain applications. Prerequisite: MATH 412 and 417/418 or equivalent.

MATH 506 Complex Variables IIA
★3 (first term, 3-0-0). Cauchy's Theorem, analytic continuation, Riemann surfaces and the monodromy theorem. Normal families, Schlicht functions, conformal transformations and Riemann mapping theorem. Symmetry principle of Schwarz. Prerequisite: MATH 512.

MATH 507 Complex Variables IIB
★3 (first term, 3-0-0). Modular functions, Picard's theorem, Bloch's theorem, entire and meromorphic functions. Dirichlet series, selected topics from analytic number theory, approximation theory and potential theory. Prerequisite: MATH 506.

MATH 511 Elementary Number Theory II
★3 (first term, 3-0-0). Arithmetic functions, Dirichlet and unitary convolution, generating series, average order of magnitude of some standard functions. Distribution of the primes, theorems of Chebychev and Mertens, Selberg's Theorem, elementary proof of the prime number theorem, primes in arithmetic progressions. Partitions: generating functions and combinatorial methods. Prerequisite: MATH 324 or equivalent.

MATH 512 Algebraic Number Theory
★3 (second term, 3-0-0). Valuations and their extensions, ramifications; integral dependence, algebraic number fields, ideals and divisors, class number. Prerequisite: MATH 427.

MATH 513 Additive Number Theory
★3 (second term, 3-0-0). Addition of sequences, density theorems, essential components, complementary sequences, bases, B2 sequences, representation theorems, arithmetic progressions. Prerequisite: MATH 324 or 511.

MATH 514 Analytic Number Theory
★3 (second term, 3-0-0). Analytic proof of the prime number theorem, Weiner-Ikehara theorem; the Hardy Ramanujan circle method and its applications to partitions and Waring's problem. Prerequisite: MATH 412 and MATH 324 or 511.

MATH 517 Introduction to Functional Analysis
★3 (first term, 3-0-0). Metric spaces. Completeness and compactness. Fixed points. Continuous operators and metric spaces. Linear and Non-linear spaces. Hilbert spaces. Linear operators and functionals. Approximate solutions of functional equations. Note: MATH 517 is no open to Honors or Graduate students of Mathematics Prerequisite: MATH 414.

MATH 518 Functional Analysis I
★3 (either term, 3-0-0). Locally convex spaces, metrizability Normed linear spaces and examples. Hahn-Banach theorem. Open mapping theorem. Principle of uniform boundedness. Weak and weak* topologies on Banach spaces. Reflective Banach spaces. Hilbert space theory. Prerequisite: MATH 418.

MATH 519 Functional Analysis II
★3 (either term, 3-0-0). Spectrum and resolvent. Fredholm theory of compact operators. Spectral theorem for bounded self-adjoint linear operators. Banach algebras. Operator algebras. Weak compactness and geometry of Banach spaces. Prerequisite: MATH 518 and MATH 543.

MATH 521 Differential Manifolds
★3 (first term, 3-0-0). Manifolds, differentiable structures and maps, vector bundles, vector and tensor fields exterior calculus, integral manifolds, integration, basic properties of Lie groups and Lie transformation groups Prerequisite: MATH 446 or 448.

MATH 522 Differential Geometry
★3 (either term, 3-0-0). Riemannian geometry: metrics connections, geodesics, curvature, de Rham theorem General theory of connections: principal bundles, linear and affine connections, holonomy groups. Lie transformation groups. Selected topics from: Singularities of maps, global analysis, G-structures, symmetric spaces applications to partial differential equations, physics Prerequisite: MATH 521.

MATH 524 Ordinary Differential Equations IIA
★3 (either term, 3-0-0). Existence and uniqueness theory linear systems, dependence on initial conditions and parameters; stability; phase plane analysis. Prerequisite: MATH 334 or equivalent.

MATH 525 Ordinary Differential Equations IIB
★3 (second term, 3-0-0). Asymptotics; boundary value problems; Poincare-Bendixson theory. Additional material will be chosen from among the following topics at the option of the instructor: separation; dichotomies; comparison and oscillation theory; bifurcation theory nonautonomous systems; dynamical systems; functional differential equations; contingent equations; differential equations in Banach spaces. Prerequisite: MATH 524 or equivalent.

MATH 526 Introductory Partial Differential Equations
★3 (either term, 3-0-0). Introduction to partial differential equations. First order equations. Classification of higher order equations. Hyperbolic (wave) equations. Elliptic equations and potential theory (Laplace equation). Parabolic (heat and diffusion) equations. Note: This course is intended primarily for students in Science or Engineering, and concentrates on the practical construction of solutions as well as the determination of general properties of solutions. Graduate students in Mathematics who wish to obtain credit for this course must have consent of department. Prerequisite: MATH 201 or 300 or 334 or equivalent.

MATH 527 Intermediate Partial Differential Equations
★3 (either term, 3-0-0). Introduction to the theory of generalized functions. Sobolev spaces; Garding's inequality, existence and regularity theory for elliptic operators Energy estimates; existence and uniqueness theory for hyperbolic operators. Qualitative properties of solutions. Note: This course is intended primarily for students in Mathematics. It is more theoretically oriented than MATH 526. Prerequisite: MATH 436; Corequisite: MATH 518.

MATH 528 Partial Differential Equations
★3 (either term, 3-0-0). Continuation of MATH 526 or MATH 527. Selection of topics will be at the instructor's option in consultation with the students, and may be chosen from the following: further study of elliptic, hyperbolic, and parabolic equations; systems of equations; integral transform methods of solution; integral equation methods; applications to boundary — and initial — value problems; nonlinear operators; approximation methods. Prerequisite: MATH 526 or 527.

MATH 529 Graph Theory
★3 (either term, 3-0-0). Graphs, subgraphs, trees, connectivity, paths and cycles, matchings, chromatic number, independent sets and cliques, Ramsey Theory, planar graphs, directed graphs, algebraic graph theory. Prerequisite: MATH 421 and MATH 426.

MATH 532 General Topology I
★3 (first term, 3-0-0). Elementary concepts of topology, nets and filters. Continuity homeomorphisms, product and quotient spaces. Axioms of separation and countability. Compactness, metrization, connectedness. Prerequisite: MATH 417 or 447.

MATH 533 Algebraic Topology I
★3 (second term, 3-0-0). Elementary concepts of homotopy theory; fundamental groups and covering spaces. Simplicial homology. Prerequisite: MATH 447.

MATH 534 Introduction to the Theory of Approximation
★3 (first term, 3-0-0). Polynomial interpolation, remainder formulae and error bounds. Best approximations in C, Lp and other norms. Degree of approximation by polynomials and trigonometric polynomials. Spline interpolation and approximation. Numerical differentiation, quadrature formulae and other applications to numerical analysis. Prerequisite: MATH 418.

MATH 535 Linear and Non-Linear Approximation
★3 (second term, 3-0-0). Linear operators. Best approximation in general normed linear spaces. Rational interpolation and approximation. Splines and approximation of linear functionals. Computational aspects, Remes and Polya algorithms. Prerequisite: MATH 534.

MATH 538 Techniques of Applied Mathematics
★3 (either term, 3-0-0). Continuation of asymptotic expansion of integrals. Perturbation theory, asymptotic matching, perturbative eigenvalue problems. Boundary layer theory. W.K.B. theory. Prerequisite: MATH 438.

MATH 542 Fourier Analysis
★3 (either term, 3-0-0). Trigonometric series. Norm and pointwise convergence theorems. Fourier integral. Inversion theorems. Plancherel's theorem. Hausdorff-Young theorem. Summability of Fourier series. Wiener's Tauberian theorem. Prerequisite: MATH 418.

MATH 543 Measure Theory
★3 (either term, 3-0-0). Abstract measures. Integration. L^p spaces. Radon-Nikodym theorem. Hahn and Lebesgue decompostion theorems. Product measures. Fubini's theorem. Prerequisite: MATH 418.

MATH 550 Applications of Differential Geometry to Mechanics
★6 (3-0-0). Configuration spaces as smooth manifolds, contangent bundles as phase spaces, vector fields on manifolds and tangent bundles, differential forms, integration. Review of variational calculus, Lagrangians, Hamiltonians, Legendre maps, symplectic and contact structures, Liouville theorem. Additional topics from Riemann and Finsler geometry, connections, dynamical systems with symmetry groups, Arnold's theory of Lagrangian singularities, ergodicity, geometric quantization. Prerequisite: MATH 446 or 448 or MA PH 443.

MATH 554 Theory of Elasticity
★6 (3-0-0). Stress, strain, stress-strain relations. Stretching, bending, torsion, and flexure of cylinders. Two-dimensional problems with an introduction to the work of Muskelvili. Introduction to three-dimensional problems. Variational methods. Prerequisite: MATH 311 or 412 or 500.

MATH 555 Fluid Dynamics
★6 (3-0-0). Fundamentals including stress tensor, invariants, stream functions; basic equations, equations relative to a rotating system, energy equation; general theorems for flow of an inviscid fluid including general results for rotating fluids; irrotational flows of an inviscid fluid of constant density including conformal mapping and the Joukowsky airfoil; waves in an incompressible fluid including surface waves of small amplitude, nonlinear surface waves, internal waves in a continuously stratified fluid and inertial waves; dynamics of inviscid compressible fliuds including shocks both normal and oblique, subsonic and supersonic flows; effects of viscosity including Darcy's law and Hele-Shaw cells; introduction to hydrodynamic stability and turbulence. Prerequisite: One of MATH 311, 407, 411, and MATH 436 or consent of the instructor.

MATH 560 Optimization Techniques
★3 (second term, 3-0-0). An advanced treatment of the theory and applications of modern techniques in optimization: dynamic programming, sequential techniques, duality, convexity, mathematical programming. Prerequisite: MATH 418 or MATH 414 or equivalent.

MATH 581 Group Theory and Field Theory
★3 (first term, 3-0-0). Solvable, nilpotent and free groups. Galois theory and valuation theory of fields. Further topics from the theory of groups and fields which may vary from year to year. Prerequisite: MATH 425.

MATH 582 Rings, Modules and Categories
★3 (second term, 3-0-0). Noetherian rings, primary decomposition, localization. Injective and Projective Modules. Artin-Wedderburn theorem. Topics from homological algebra and category theory which may vary from year to year. Prerequisite: MATH 425.

MATH 600 Reading in Mathematics
★3 (either term, 3-0-0). Students registered in this course are supervised by individual staff members in areas of interest of the staff members. Students will be allowed to take this course only in exceptional circumstances and with the permission of the Chairman of the Department. This course shall not be counted against the minimum course requirement for graduate students.

MATH 601 Morse Theory and Its Applications I
★3 (either term, 3-0-0). Banach manifolds, tangent bundles, vector fields, semi-flows, implicit function theorem, submanifolds and transversity theorem. Riemannian manifold and Finsler structure. Deformation lemmas. Mountain Pass Theorem, Lusternik-Schnirelman theory. General Morse Lemma, critical groups and Morse inequalities, continuity of critical groups. Applications to Differential Equations and Boundary Value Problems. Prerequisite: MATH 518 and MATH 533 or consent of department.

MATH 602 Morse Theory and Its Applications II
★3 (either term, 3-0-0). Homology and Hilbert manifold structure of path space and loop space, classical morse theory, geodesics and Jacobi fields on Finsler n-manifolds, finite and infinite dimensional Cartan-Hadamard theorem. Novikov's multivalued Morse theory for 1-forms and applications to mathematical physics. Prerequisite: MATH 601 and MATH 522 or consent of department.

MATH 605 Mathematical Logic
★4 (2-0-0). Sentential calculus; lower predicate calculus; Bolean algebra; structures, Godel's completeness theorem.

MATH 617 Topics in Functional Analysis I
★3 (first term, 3-0-0).

MATH 618 Topics in Functional Analysis II
★3 (second term, 3-0-0).

MATH 626 Topics in Number Theory I
★3 (first term, 3-0-0).

MATH 627 Topics in Number Theory II
★3 (second term, 3-0-0).

MATH 629 Topics in Combinatorics
★3 (either term, 3-0-0).

MATH 632 Algebraic Topology II
★3 (first term, 3-0-0).

MATH 633 General Topology II
★3 (second term, 3-0-0).

MATH 635 Fiber Bundles and Characteristic Classes
★3 (either term, 3-0-0). Prerequisite: Algebraic Topology (MATH 533).

MATH 638 Nonlinear Waves
★3 (either term, 3-0-0).

MATH 641 Banach Space Theory
★3 (either term, 3-0-0). Prerequisite: MATH 519.

MATH 642 Abstract Harmonic Analysis
★3 (either term, 3-0-0). Prerequisite: MATH 519.

MATH 643 Topics in Analysis
★3 (either term, 3-0-0).

MATH 644 Topics in Measure Theory
★3 (either term, 3-0-0).

MATH 645 Lattice Theory
★3 (either term, 3-0-0).

MATH 663 Topics in Applied Mathematics I
★3 (first term, 3-0-0).

MATH 664 Topics in Applied Mathematics II
★3 (second term, 3-0-0).

MATH 666 Topics in Mathematical Modelling
★3 (either term, 3-0-0). Topics on standard mathematical methods used in modelling, selection at the option of the instructor. Various methodologies or philosophies of model building, techniques for simulation of dynamic systems and axiomatic approaches will be discussed. The course may be run in seminar fashion with an accent on reading current research literature and guest lectures from among the science faculty.

MATH 667 Topics in Differential Equations I
★3 (first term, 3-0-0).

MATH 668 Topics in Differential Equations II
★3 (second term, 3-0-0).

MATH 676 Topics in Geometry I
★3 (first term, 3-0-0).

MATH 677 Topics in Geometry II
★3 (second term, 3-0-0).

MATH 678 Ring Theory I
★3 (first term, 3-0-0).

MATH 679 Ring Theory II
★3 (second term, 3-0-0).

MATH 681 Topics in Algebra
★3 (first term, 3-0-0).

MATH 682 Topics in Algebra
★3 (second term, 3-0-0).

MATH 692 Topics in Group Theory
★3 (first term, 3-0-0).

MATH 693 Topics in Group Theory
★3 (second term, 3-0-0).

MATH 695 Advanced Relativity Theory
★6 (3-0-0).

Mathematical Physics

MA PH 343 Classical Mechanics I
★3 (first term, 3-0-0). Review of fundamental principles; Lagrange's equations derived from Newton's Laws and D'Alembert's Principle; Variational Principles; Hamilton's Equations; Canonical Transformations; Small Oscillations. Prerequisite: PHYS 244 or MATH 376; MATH 215 or 317.

MA PH 344 Classical Mechanics II
★3 (second term, 3-0-0). Non-Conservative and Non-Holonomic Systems; motion of a rigid body in Non-Inertial Systems; Hamilton-Jacobi equation; principles of fluid mechanics. Prerequisite: MA PH 343.

MA PH 451 Mathematical Methods of Physics I
★3 (first term, 3-0-0). Application to problems in physics of: method of steepest descent; Fourier and Laplace transforms; boundary-value problems, integral equations and Green's functions. Prerequisite: PHYS 372 and 382.

MA PH 453 Mathematical Methods of Physics II
★3 (second term, 3-0-0). Application to problems in physics of: contour integral solutions of linear differential equations; Legendre, Bessel and hypergeometric functions with complex arguments; applications to the differential and integral equations of mathematical physics; perturbation theory; calculus of variations; conformal mapping; elements of group theory. Prerequisite: MA PH 451.

MA PH 467 Mechanics of Deformable Media
★3 (second term, 3-0-0). Stress and strain in continuous media; elasticity; mechanics of fluid flow in 2 dimensions using complex variables; 3 dimensional fluid flow using Eulerian and Lagrangian reference frames; thermodynamics and mechanics of compressible and viscous flows; onset of turbulence, convection and instability. Examples from geophysics, oceonography and atmospheric physics. Prerequisite: PHYS 211, MATH 334, MA PH 343, MATH 411, or 311.

MA PH 468 Introduction to Relativity
★3 (second term, 3-0-0). Special Relativity, principle of equivalence, Einstein field equations, stationary and static fields, Schwarzschild metric, experimental tests, black holes, linearized equations, gravitational collapse, cosmology. Prerequisite: MATH 446 or equivalent.

MA PH 669 General Relativity
★6 (3-0-0). Algebraic analysis of the field equations, Cauch initial value problem, gravitational radiation, algebraically special fields, conservation laws, gravitational collapse and black holes. Relativistic astrophysics, cosmological models, global structure of space-time. Prerequisite: MATH 466 or conset of both Departments.

Physics

Note: The following courses are given in the Physics Department. Some of these may be selected as part of a graduate progam in mathematics.

PHYS 676 Nuclear Structure I
★3 (either term, 3-0-0).

PHYS 677 Nuclear Structure II
★3 (either term, 3-0-0).

PHYS 680 Advanced Quantum Mechanics
★6 (3-0-0).

PHYS 682 Advanced Electromagnetic Theory I
★3 (first term, 3-0-0).

PHYS 683 Statistical Mechanics
★3 (first term, 3-0-0).

PHYS 684 Advanced Electromagnetic Theory II
★3 (second term, 3-0-0).

PHYS 685 Quantum Field Theory I or II
★3 (second term, 3-0-0).

PHYS 688 Solid State Theory
★6 (3-0-0).

PHYS 699 Selected Topics in Theoretical Physics
★3 (either term, 3-0-0). I — Scattering theory; II — Green's function; advanced solid state theory; III — mechanics of fluids and other continua.

204.47 Mechanical Engineering

Department of Mechanical Engineering
4-9 Mechanical Engineering Building
University of Alberta
Edmonton, Alberta T6G 2G8

204.47.1 General Information

The Department of Mechanical Engineering offers graduate courses and provides research facilities for well qualified students of recognized universities who wish to pursue advanced studies leading to the MEng, MSc, and PhD degrees in Mechanical Engineering. In addition, programs leading to the Master of Engineering and Master of Science in Engineering Management are also available for students wishing to specialize in this area.

The general fields for studying and research include solid mechanics, dynamics, vibration, thermodynamics, fluid mechanics, heat transfer, combustion, computer applications and biomedical engineering. The general areas within engineering management encompass engineering economics, operations management and operations research.

The more specialized program of MEng in Welding Engineering is also supported by the Department according to the guidelines established by the Faculty of Engineering.

While the general guidelines for entrance and program requirements are listed below, details of these specific requirements for each of these degrees can be obtained from the Department. As well, the currently active areas of research are documented in a brochure available from the Department of Mechanical Engineering.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 580 where applicable (see §202.2.2).

Financial Assistance:

Financial assistance is available in the form of scholarships and fellowships (see Awards section of this Calendar) and through the Department in the form of graduate assistantships and contract research (available for Canadian students and students holding valid work permits). The assistantships are available on a full-time or part-time basis with remuneration according to the student's qualifications and hours of service. Summer assistance can usually be arranged for students without scholarship support who continue their research through the summer months.

204.47.2 The Degree of MSc

Program Requirements:

For the Master of Science program the candidate must have satisfactorily completed a minimum of 15 units of course weight in graduate courses, MEC E 601, (additional courses may be required on advice of the student's supervisory committee), plus a thesis acceptable to the Department of Mechanical Engineering and the Faculty of Graduate Studies and Research.

There is no language requirement for the MSc.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research undertaken. Normally, it will take 18 to 24 months to complete the MSc.

204.47.3 The Degree of MEng

Program Requirements:

The normal requirement for a Master of Engineering program is credit in 24 units of course weight in graduate courses, 15 of which must be in the candidate's major field, MEC E 601, plus a project equivalent to six units of course weight.

There is no language requirement for the degree of MEng.

The minimum residence requirement is one four-month term for a BSc graduate with at least one year of post-BSc experience, and one session (two four-month terms) for a BSc graduate with less than one year of post-BSc experience.

Length of Program

Candidates may complete the program in 9 to 12 months. The maximum time permitted for completion of a Master of Engineering program is four years from the date of first registration.

204.47.4 The Degree of PhD

Program Requirements:

The Department normally requires candidates to satisfactorily complete approved courses in one major field and at least one minor field. The minimum requirements after a bachelor's degree are 27 units of course weight in graduate courses, 15 of which must be in the major field, MEC E 601, plus research leading to a thesis of high calibre. For those students entering the PhD program after a master's degree the minimum course requirement is 12 units of course weight in post-master's courses. As part of the requirements for admission to candidacy for the PhD the provisional candidate will normally have to pass comprehensive departmental examinations (either oral or written) embracing the major field that will be arranged in consultation with the Department.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary with the individual candidate; however, a minimum of 30 months of study and research is normally required.

204.47.5 Graduate Courses

The courses MEC E 610, 630, 640, 650, 670, 681 and 684 normally will be offered annually. Other courses will be offered on a lecture basis when there is sufficient enrolment; otherwise they will be offered on a guided reading basis.

THES 900 Thesis
THES 999 Thesis
MEC E 900 ★6 Directed Research Project Detailed engineering report in the student's major area of interest.

MEC E 601 Graduate Seminar
□0.5 (either term, 0-1s-0). Presentations by Master's graduate students, staff, and visiting scientists on current research topics. (★0.5)

MEC E 602 Graduate Seminar
□0.5 (either term, 0-1s-0). Presentations by PhD graduate students on current research projects. (★0.5)

MEC E 605 Experimental Strain Analysis
□3.0 (either term, 3-0-0). Basic experimental methods used in engineering mechanics, including photoelasticity, strain gauges, brittle coatings; measurement in static, dynamic and transient system, ultrasonics; laboratory exercises. (★3)

MEC E 606 Experimental Fluid Mechanics
□3.0 (either term, 3-0-0). The techniques covered include flow visualization, laser-Doppler anemometry, thermal anemometry and automation of experiments. Physical principles, criteria for choosing instruments and practical problems are discussed. (★3)

MEC E 610 Engineering Economic Analysis
□3.0 (either term, 3-0-0). Advanced topics in engineering economics including: operating and capital budgets, financial statement use by managers, replacement analysis, cost of capital and leasing. Prerequisite: MEC E 413 or equivalent. (★3)

MEC E 611 Project Management Techniques
□3.0 (either term, 3-0-0). This course involves study of the management techniques that are particularly relevant to the design, development and control of engineering projects. Special attention will be given to Network (CPM, PERT) Systems and the use of computers for time and cost control. (★3)

MEC E 612 Operational Research
□3.0 (either term, 3-0-0). The applications of operational research and decison analysis techniques to Engineering Management problems. Techniques to be used include linear programming, dynamic programming, integer programming, queueing theory and computer simulation. Applications will involve the use of case studies and computer modelling. Application areas will include resource allocations, maintenance, inventory control, reliability and search. Prerequisite: MMP E 597, MGTSC 352, MEC E 515 or equivalents. (★3)

MEC E 613 Managing in a Technical Environment
□3.0 (either term, 3-0-0). Design concepts for management systems, philosophy of engineering management, the management function, matrix management, management by objectives. (★3)

MEC E 614 Computer Applications in Engineering Management
□3.0 (either term, 3-0-0). The use of computers in engineering organizations. Particular topics to include decision making with computers, computer aided manufacturing and management information systems. The problem solving portion of the course will employ microcomputers as the principal computer tool. (★3)

MEC E 615 Welding Fabrication Systems
□3.0 (either term, 3-0-0). (★3)

MEC E 620 Combustion
□3.0 (either term, 3-0-0). Chemical reactions, chemical equilibrium and flame temperatures. Flame propagation and explosion theories. Detonations. Air pollution from combustion sources. (★3)

MEC E 630 Fluid Dynamics
□3.0 (either term, 3-0-0). Kinematics of fluid motion; fundamental fluid equations and concepts, common governing equation formulations in computational fluid dynamics, laminar boundary layers, potential flow. (★3)

MEC E 632 Turbulent Fluid Dynamics
□3.0 (either term, 3-0-0). Governing equations of turbulent flow. Statistical and phenomenological theories of turbulent transport of momentum, heat and mass in wall bounded and free flows. Computational techniques, empirical data and applications. (★3)

MEC E 635 Gas Dynamics
□3.0 (either term, 3-0-0). Equations of motion; compressible fluid flow; shock waves; one-dimensional flow with friction and heat transfer; real gas effects; method of characteristics; multidimensional flow. (★3)

MEC E 640 Analytical Thermodynamics
□3.0 (either term, 3-0-0). Extension of classical thermodynamics, statistical thermodynamics applied to engineering systems. Irreversible thermodynamics: thermoelectricity and thermodiffusion. (★3)

MEC E 650 Analytical Dynamics
□3.0 (either term, 3-0-0). Principle of virtual work; Lagrange's equations of motion for holonomic and non-holonomic systems; Hamilton's principle; application to gyroscopes, stabilizers, etc. (★3)

MEC E 652 Nonlinear Oscillations
□3.0 (either term, 3-0-0). Phase plane, singular points; non-linear conservative systems, limit cycles, stability; perturbation method, non-linear resonance. (★3)

MEC E 653 Singal Processing of Time and Spectral Series
□3.0 (either term, 3-0-0). Practical application of processing techniques to the measurement, filtering and analysis of mechanical system signals; topics include: signal classification, A/D conversion, spectral analysis, digital filtering and real-time signal processing, acoustic and vibration studies, turbulence analysis, engine knock detection, predicting probabilities in air pollution. (★3)

MEC E 655 Dynamics of Structures
□3.0 (either term, 3-0-0). Behaviour of elastic structures subjected to dynamic loads. Vibrations of buildings and bridges excited by machinery, earthquakes, wind and traffic. (★3)

MEC E 660 Design of Mechanical Systems I
□3.0 (either term, 3-0-0). A critical analysis of some existing mechanical systems. (★3)

MEC E 661 Design of Mechanical Systems II
□3.0 (either term, 3-0-0). A critical analysis of some existing mechanical systems. (★3)

MEC E 663 Discrete Element Analysis of Mechanical Systems
□3.0 (either term, 3-0-0). Applications of matrix methods, finite element and boundary element techniques to problems in applied mechanics. Emphasis on the use of micro-computers. (★3)

MEC E 664 Techniques of Mechanical Design
□3.0 (either term, 3-0-0). Techniques of optimization; applications to specific problems of mechanical design. Linear and nonlinear programming. Reliability mathematics; relation of factor of safety to reliability; statistical nature of design, computer-aided design. (★3)

MEC E 665 Pressure Vessel Design
□3.0 (either term, 3-0-0). This course offers an integrated treatment of stress analysis, design theory, material behavior and construction of pressure vessels used in the energy, chemical and petroleum industries. Special topics covered include the basis of the ASME code, stresses in shells and heads, discontinuity stresses arising from openings and attachments, and design of welded joints. Prerequisite: MEC E 584 or consent of instructor. (★3)

MEC E 670 Advanced Heat Transfer
□3.0 (second term, 3-0-0). Advanced topics in conduction and convection heat transfer; solution by analytical and numerical methods. (★3)

MEC E 671 Convection Heat Transfer
□3.0 (either term, 3-0-0). General theory of convection systems. Forces and free convection for laminar and turbulent conditions. Internal and external flows. (★3)

MEC E 672 Thermal Radiation
□3.0 (either term, 3-0-0). Principles of radiant energy transfer. Gaseous radiation. Spectral characteristics. Geometrical characteristics of systems involving thermal radiation. Electrical analogy. (★3)

MEC E 680 Continuum Mechanics
□3.0 (either term, 3-0-0). Introduction to cartesian tensor algebra and calculus; analysis of finite deformation and kinematics of motion; transport theorems and balance laws; analysis of stress; continuum thermodynamics, constitutive equations and material symmetry with application to solids and fluids. (★3)

MEC E 681 Elasticity
3.0 (either term, 3-0-0). Extension, torsion and flexure of beams; two-dimensional problems; complex variable methods; integral transform methods; variational methods. (★3)

MEC E 682 Plasticity
3.0 (either term, 3-0-0). Yield condition, plastic potential, elastic-plastic problems, characteristic theory, slip line fields, plane stress anisotropy. (★3)

MEC E 683 Plates and Shells
3.0 (either term, 3-0-0). Solutions of the plate equation for rectangular and circular plates with various boundary conditions; special and approximate methods; membrane theory of shells; bending theory of cylindrical shells. (★3)

MEC E 684 Static and Dynamic Stability
3.0 (either term, 3-0-0). Classical stability analysis of bars and plates subjected to various loading conditions. Energy methods. Dynamic stability of non-conservative force systems and the effects of internal friction. Inelastic buckling, torsional buckling. (★3)

MEC E 685 Macro Fracture Mechanics
3.0 (either term, 3-0-0). Basic concepts of linear and nonlinear fracture mechanics: linear and nonlinear stationary crack-tip stress, strain and displacement fields; energy balance and energy release rates; fracture resistance concepts-static and dynamic fracture toughness; criteria for crack growth; fracture control methodology and applications.: (★3)

MEC E 686 Fatigue of Engineering Materials
3.0 (either term, 3-0-0). A study of mechanisms and mechanics of fatigue process: damage caused by constant and variable cyclic amplitudes and random loading; effects of load interaction: initiation and propagation of fatigue cracks; life prediction; effects of multiaxial stress states, temperature and environment. (★3)

MEC E 718 Reading Projects in Engineering Management I
3.0 (either term, 3-0-0). (★3)

MEC E 719 Advanced Topics in Engineering Management II
3.0 (either term, 3-0-0). (★3)

MEC E 728 Advanced Topics in Advanced Applied Thermodynamics I
3.0 (either term, 3-0-0). (★3)

MEC E 729 Advanced Topics in Advanced Applied Thermodynamics II
3.0 (either term, 3-0-0). Combustion, refrigeration. (★3)

MEC E 738 Advanced Topics in Advanced Fluid Dynamics I
3.0 (either term, 3-0-0). (★3)

MEC E 739 Advanced Topics in Advanced Fluid Dynamics II
3.0 (either term, 3-0-0). Aerodynamics, rarified gas dynamics, turbulence, hydro and thermo stability. (★3)

MEC E 748 Advanced Topics in Advanced Thermodynamics I
3.0 (either term, 3-0-0). (★3)

MEC E 749 Advanced Topics in Advanced Thermodynamics II
3.0 (either term, 3-0-0). Energy conversion, general thermodynamics, irreversible thermodynamics. (★3)

MEC E 758 Advanced Topics in Advanced Dynamics I
3.0 (either term, 3-0-0). (★3)

MEC E 759 Advanced Topics in Advanced Dynamics II
3.0 (either term, 3-0-0). Wave propagation, orbital dynamics. (★3)

MEC E 778 Advanced Topics in Advanced Heat Transfer I
3.0 (either term, 3-0-0). (★3)

MEC E 779 Advanced Topics in Advanced Heat Transfer II
3.0 (either term, 3-0-0). Conduction, convection, radiation. (★3)

MEC E 788 Advanced Topics in Advanced Solid Mechanics I
3.0 (either term, 3-0-0). (★3)

MEC E 789 Advanced Topics in Advanced Solid Mechanics II
3.0 (either term, 3-0-0). Elastic plasticity, viscoelasticity, shells. (★3)

204.48 Medical Microbiology and Infectious Diseases

Department of Medical Microbiology and Infectious Diseases
141 Medical Sciences Building
University of Alberta
Edmonton, Alberta T6G 2H7

204.48.1 General Information

The Department offers programs leading to the degrees of Master of Science and Doctor of Philosophy. The Department has well-equipped laboratories for research in various aspects of medical microbiology and infectious diseases.

Inquiries should be directed to the Chair or the Graduate Coordinator.

Entrance Requirements:

The Department's minimum admission requirement is an undergraduate degree in microbiology or a related field such as agriculture, biochemistry, biology, chemistry, medical laboratory science, medicine, pharmacy, and veterinary medicine. The Department generally does not accept students with a grade point average of less than 7.0 during their last two years of undergraduate (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution. Where applicable (see §202.2.2), a TOEFL score of 550 is normally required.

Financial Assistance:

A limited number of teaching and research assistantships are available. Exceptionally qualified students are encouraged to apply for extramural support through the studentship award programs of agencies such as the Alberta Heritage Foundation for Medical Research, the Medical Research Council of Canada, and so on.

204.48.2 The Degree of MSc

Program Requirements:

Required courses depend on the student's undergraduate background and the proposed area of specialization; however, the MSc program consists of at least six units of course weight in graduate-level courses and a thesis on an approved research topic. In addition, each student must participate each year and must register once for credit in the medical microbiology seminar (MMID 501); students who have not previously taken MMID 361 (or equivalent from a recognized institution) must take MMID 361 for credit during their first session in the graduate program.

Terminal MSc students are required to maintain a program GPA of not less than 6.5; however, students wishing to proceed to a later PhD in the Department must maintain a program GPA of 7.0. Any student's supervisory committee has the option to call an oral assessment examination at the conclusion of the student's first session in the graduate program. An oral thesis defence examination is required.

There is no language requirement other than English for the MSc.

Length of Program:

The time required to complete the program will depend on the student's background and the nature of the thesis project. Normally, a minimum of two years of full-time study and research is required.

204.48.3 The Degree of PhD

Program Requirements:

Required courses depend on the student's background and the proposed area of specialization; however, the PhD program normally consists of at least 15 units of course weight in graduate-level courses and a thesis on an approved research topic. In addition, each student must participate each year in the medical microbiology seminar (MMID 501); students who have not previously taken MMID 361 (or equivalent from a recognized institution) must take MMID 361 for credit during their first session in the graduate program.

Students are required to maintain a program GPA not less than 7.0. Any student's supervisory committee has the option to call an oral assessment examination at the conclusion of the student's first session in the graduate program. In addition, the student must pass an oral candidacy examination and an oral thesis defence examination.

There is no language requirement other than English for the PhD.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the student and the nature of the research undertaken; however, a minimum of four years of full-time study and research is normally required.

204.48.4 Undergraduate Courses

The following courses may be taken for graduate credit:

MMID 425 Medical Virology
★3 (second term, 1-0-5). A detailed examination of the principles underlying the identification of viruses of medical importance. Strong emphasis will be placed upon the practical application and rationale of viral diagnostic methods. Prerequisite: MICRB 224 or MMID 224 and consent of department.

MMID 426 Medical Parasitology
★3 (second term, 3-0-3). A survey of the protozoan and metazoan parasites of man. Emphasis will be placed on laboratory methods for detection and identification as an aid to diagnosis and therapy. Prerequisite: A course in medical microbiology or consent of department.

MMID 427 Medical Mycology
★3 (first term, 3-0-3). Laboratory study of the fungi associated with human disease with particular emphasis on the methods for demonstration, isolation and identification of pathogenic fungi. Attention will also be given to the epidemiology, serology and pathology of fungus diseases. Prerequisite: Introductory medical microbiology or microbiology or BOT 341.

204.48.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis

MMID 501 Microbiology Literature Review
★3 (either term, 3-0-0). A supervised course dealing with current ideas in microbiology. Students attend discussion sessions in the Department and prepare seminars.

MMID 505 Mechanisms of Pathogenicity
★3 (first term, 3-0-3). A functional approach to the production of disease by microbes emphasizing the biochemical, immunological and physiological properties of host and microbe which account for a pathological process. Prerequisite: Introductory bacteriology or microbiology and biochemistry or consent of department.

MMID 512 Special Projects
★3 (either term, 0-0-3).

MMID 520 Bacterial Plasmids
★3 (first term, 3-0-0). The biology of plasmids and plasmids as tools for molecular biology The structure and properties of various bacterial plasmids (antibiotic resistance plasmids, colicin and enterotoxin-producing plasmids) will be considered in light of our current understanding of the evolution of plasmids. The involvement of insertion sequences and transposons in plasmids organization will be discussed. The course will focus on the modes of plasmids DNA replication and the means by which bacterial plasmids are maintained in host cells. Important plasmid-coded functions such as incompatibility and conjugative transfer will be discussed in detail. The effect of plasmids in human and veterinary medicine and on plant pathogenesis (the crown gall disease) will also be considered. The use of plasmids in genetic engineering including the choice of vectors, cloning methods and risks and benefits will complete the course. Note: Designed for advanced honors and graduate students and offered in alternate years. Prerequisite: BIOCH 301 MICRB 193 or consent of Department.

MMID 525 Immunobiology of Virus Infection
★3 (first term, 2-1s-0). A lecture and seminar course designed for advanced undergraduates and graduate students as well as for residents in Medicine and Medical Microbiology and Infectious Diseases. The course will cover both normal and pathological immune reactions during viral infections. Both experimental and clinical infections will be dealt with during the lectures. Each student will also give a seminar on a selected topic on viral immunopathogenesis. Prerequisite: Consent of department. Maximum enrollment 12. Offered alternate years during the fall term.

204.49 Medical Sciences

204.49.1 General Information

The Departments of Applied Sciences in Medicine, Immunology, Medicine, Pathology, Paediatrics, Psychiatry, and Radiology and Diagnostic Imaging are participating in an interdisciplinary PhD program in the medical sciences. This program has as its objective the training of medical research scientists who are strongly motivated to pursue a medical research career in areas of ultimate clinical relevance. It may be combined in a flexible manner with an MD degree program, providing the candidate satisfies the admission requirements of each program.

Entrance Requirements:

Candidates with either bachelor's, master's, and/or medical degrees are encouraged to apply. Admission to

the program is generally dependent on honors grades in the last two years of undergraduate work (or graduate work) at the University of Alberta or a recognized institution, and (where applicable) a TOEFL score of not less than 550 (see §202.2.2.). Candidates should prepare themselves for the program by taking the basic science courses necessary for the program they have in mind, and they should identify the department they wish to work in, and a faculty member within that department who will act as their mentor. Qualified students will normally enter the program as provisional candidates for the PhD.

Financial Assistance:

Students who are accepted into the program are encouraged to apply through their prospective supervisors for studentships from the Medical Research Council of Canada ($14,140 per annum) and the Alberta Heritage Foundation for Medical Research ($13,595 per annum). Each successful applicant to either agency also receives a research allowance from the Alberta Heritage Foundation to defray the cost of the applicant's research project (including travel to scientific meetings). Graduate assistantships are available from some departments. The University offers University of Alberta PhD Scholarships; details are available from the Faculty of Graduate Studies and Research.

204.49.2 The Degree of PhD

Program Requirements:

Admission to the PhD in medical sciences program is dependent upon the recommendation of the PhD committee. The committee comprises a representative of each department participating in the program, plus the Associate Dean of Medicine (Research) and a basic scientist from a department with a long-established PhD program. Course requirements are tailor-made for each student. They are determined by the committee as a whole and are based on the background of the student and the area of specialization to be undertaken. Normally, a minimum of 15 units of course weight in graduate courses is required.

A PhD candidate must prepare a thesis describing the results of the candidate's research project and be examined orally by a committee formed according to Faculty of Graduate Studies and Research regulations.

No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

In general, the PhD program will take a minimum of three years to complete, with the first year devoted to course work and a qualifying exam in the field of the candidate's choice.

Inquiries concerning the PhD in medical sciences program should be directed to:

Associate Dean of Medicine (Research)
University of Alberta
2J2.02 Walter Mackenzie Health Sciences Centre
Edmonton, Alberta
Canada T6G 2R7

204.50 Medicine

Department of Medicine
2F1 Walter Mackenzie Health Sciences Centre
University of Alberta
Edmonton, Alberta T6G 2R7

204.50.1 General Information

The Department of Medicine offers the degree of MSc in Experimental Medicine either as part of a coordinated pattern of training leading to fulfillment of requirements for postgraduate training in the medical specialities, or as a separate program for those proceeding from a BSc. A PhD program is also offered to highly qualified candidates, as part of the PhD in Medical Sciences interdisciplinary program (see §204.49).

Research may be carried out in either basic or clinical sciences and may be either theoretical or applied in nature.

Inquiries should be directed to the Director of Graduate Education of the Department of Medicine.

Entrance Requirements:

The Department's normal requirements for admission of graduate students are a 7.0 or equivalent GPA during the previous two years of university and a TOEFL score of 550 where applicable (see §202.2.2).

Financial Assistance:

Limited financial assistance is available to support these programs, but applications should be made at least 12 months in advance.

204.50.2 The Degree of MSc

Program Requirements:

Such course work is required as may be necessary for the proper understanding and carrying out of research and preparation of the thesis. Transfer credit may be granted in appropriate cases for courses taken during the latter years of the MD program at the discretion of the Dean, Faculty of Graduate Studies and Research.

There is no second language requirement for the MSc.

For candidates holding an MD, the program's minimum residence requirement is one calendar year of full-time attendance at the University of Alberta. For other candidates an additional (qualifying) year may be required.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of 18 months is normally required.

204.50.3 Graduate Courses

MED 501 Clinical Pulmonary Physiology
★3 (second term, 2-0-0). Basic and clinical lectures on: Lung Structure; Pulmonary Blood Flow; Airflow; Gaseous Diffusion; Ventilation/Perfusion Matching; Control of Ventilation; Oxygen Transport; Lung Defense; Mucociliary Transport; ARDS; Asthma; Exercise; Lung Growth; Surfactant; Lung Metabolism; Pulmonary Function Testing. Prerequisite: General courses in Physiology, Physics and Biochemistry or consent of department.

MED 511 Molecular Biology in Medicine
★3 (second term, 3-0-0). This course will review the contributions of advances in molecular biology to the understanding of human diseases, with special emphasis on recombinant DNA and hybridoma technologies. Topics to be discussed will include the isolation and characterization of human genes, the production of pharmaceuticals and biologicals such as immune regulators and subunit vaccines by genetically engineered microorganisms, the molecular basis of selected genetic and infectious diseases, and the application of advanced technology to rapid diagnosis of viral infections and to prenatal diagnosis of genetic defects. Offered in alternate years. Prerequisite: BIOCH 300 or equivalent and consent of department.

MED 571 Directed Reading in the Basic Medical Sciences
★3 (either term, 3-0-0). Reading and study of basic medical science topics relevant to the student's chosen field of study under the direction of one or more faculty members. Prerequisite: Consent of department.

MED 573 Directed Reading in Clinical Medicine
★3 (either term, 3-0-0). Reading and study in a field of clinical medicine relevant to the student's chosen field of study under the direction of one or more faculty members. Readings currently available in GI Physiology, Experimental Hematology, Steroid Receptors, Cardiophysiology, Renal Physiology, and Endocrinology. Prerequisite: Consent of department.

MED 575 Nutrition and Metabolism
★3 (1-1s-0). A seminar and discussion course in advanced nutrition and metabolism that examines current topics in nutrition and features regular seminars on alternate weeks throughout both terms of the winter session. A discussion group meets after each seminar. Preference will be given to graduate and postgraduate students in the area of nutrition and metabolism. Maximum enrolment of 15. Prerequisite: Consent of department.

MED 673 Research Design and Data Analysis in Clinical Medicine
★3 (second term, 3-0-0). Application of statistical techniques, designing research projects, preparation of grant proposals, and techniques for evaluating the quality of research publications in medicine. Addresses experimental test tube, animal and human research as well as clinical trials using a critical, problem-solving, example-based approach. A basic course in statistics is a recommended prerequisite. Preference will be given to graduate and postgraduate students in the Department of Medicine. Maximum enrolment of 25.

§204.51 Reserved

204.52 Meteorology

Department of Geography
3-32 Tory Building
University of Alberta
Edmonton, Alberta T6G 2H4

204.52.1 General Information

The Department of Geography offers programs leadin to graduate degrees in meteorology. Offered are an MS in geography with a specialization in meteorology, and a MSc and PhD in meteorology.

Programs leading to the PhD degree concentrate o those fields of interest in which the Division of Meteorolog has the competence to guide the student, namely: ha studies, icing and precipitation physics, synoptic an satellite meteorology, weather modification, urban an industrial meteorology, turbulent diffusion, Arctic and applie climatology, and micrometeorology.

Entrance Requirements:

The Department's minimum admission requirement are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) a the University of Alberta, or an equivalent qualificatior from a recognized institution, and a TOEFL score of 55 where applicable (see §202.2.2).

Financial Assistance:

See §204.33 (Geography).

204.52.2 The Degree of MSc

Two separate programs lead to the MSc degree with specialization in meteorology. Prerequisite to either program is an Honors BSc degree or equivalent with adequate preparation in mathematics and physics.

MSc in Geography (Specialization in Meteorology)

The program of studies for the degree of MSc (geography) with specialization in meteorology is designed for students who wish to apply a knowledge of meteorology to some allied field. Prospective candidates should write and inquire of the Department stating their interests and their background.

Program Requirements:

Candidates are required to take 18 units of course weight in meteorology and climatology, and to prepare and defend a thesis on an approved topic. Course work should include METEO 330, 331, 432 and GEOG 435. Candidates who do not have any background in statistics should also include an introductory course in that field.

There is no language requirement for the degree.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of 12 months is normally required.

MSc in Meteorology

A second program leading to an MSc (meteorology) degree is given with the cooperation of the Atmospheric Environment Service, Environment Canada. To be admitted to this program a student must have an Honors degree in mathematics or physics (or the equivalent), or a degree in meteorology.

Program Requirements:

For students with little background in meteorology, the first academic year will include METEO 330, 331, 332, 425, 430, two of (220, 230, 531, 432) and GEOG 333, 433, or 533. Appropriate courses from other departments may be substituted in some instances with the consent of the Department. Normally, a student will take METEO 432, 433, one of (434, 530, 531) and GEOG 533 and will prepare a thesis in the second year.

No language other than English is required for the degree.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

Twenty-four months of study and research is normally needed to complete the requirements for the degree.

204.52.3 The Degree of PhD

Program Requirements:

The PhD program consists of a minimum of six units of course weight taken for graduate credit and a thesis. Students without an MSc in meteorology will be required to take additional courses.

No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary with the individual candidate; however, a minimum of 36 months of study and research is normally required.

204.52.4 Undergraduate Courses

The following may be taken for graduate credit:

METEO 330 Atmospheric Physics I
★3 (first term, 3-0-0). Principles of thermodynamics, thermodynamics of dry and moist air, thermodynamic diagrams, hydrostatic stability, convection, principles of radiation, solar and terrestrial radiation. Prerequisite or corequisite: METEO 230, and MATH 215.

METEO 331 Introduction to Atmospheric Dynamics
★3 (second term, 3-0-0). Kinematics of the atmosphere, equations of motion and their simplification, pressure change, atmospheric interfaces, circulation and vorticity, pressure coordinates, introduction to turbulence. Prerequisite or corequisite: METEO 230 and MATH 215.

METEO 332 Synoptic Meteorology I
★3 (second term, 3-0-3). An introduction to synoptic analysis. Meteorological codes, sea-level map analysis of isobars, air-masses and fronts, stability, constant pressure chart contour and isotherm analysis, thickness charts and thermal winds. Prerequisite: METEO 230.

204.52.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis

METEO 406 Reading and Seminar Course in Meteorology
★3 (either term, 3-0-0). Prerequisite: A 300-level Meteorology course.

METEO 415 Meteorological Statistics
★3 (second term, 3-0-0). Application of statistics to meteorology. Fourier analysis, factor analyses, multiple discriminant analysis and curve fitting by regression. Variance spectrum analysis of time series. Prerequisite: A 300-level Meteorology course.

METEO 425 Atmospheric Turbulence and Diffusion
★3 (second term, 3-0-0). Viscosity. Navier-Stokes Equations. Dimensional analysis. Averaging. The Reynolds stress equations. The Boussinesq approximation. The planetary boundary layer. The equilibrium atmospheric surface layer. Evaporation. Advection. Disturbed-surface-layer flows. Canopy flows. Plume rise. Atmospheric diffusion. Numerical simulation of atmospheric flow and mass diffusion. Prerequisite: A 300-level Meteorology course.

METEO 430 Atmospheric Physics
★3 (second term, 3-0-0). Condensation of water vapor in the atmosphere, condensation nuclei, growth of droplets from the vapor, statistical growth of drops by collection, ice nuclei, ice formation, snow crystals, growth of hail, numerical modelling of cumulus clouds and precipitation, artificial modification of clouds, weather radar. Prerequisite: METEO 330.

METEO 432 Synoptic Meteorology II
★3 (first term, 3-0-0). Structure of the atmosphere. The structure and behavior of weather systems. Planetary scale motion systems. Jet streams. Vertical motion. Condensation phenomena. Meso-scale phenomena. Prerequisite: METEO 331, 332.

METEO 433 Applied Meteorology
★3 (second term, 3-0-0). Weather forecasting techniques, student map discussions, visits to weather offices. Guest lectures. Prerequisite: METEO 432.

METEO 434 Atmospheric Modelling
★3 (second term, 3-0-3). Complementary to METEO 433. Advanced synoptic analysis and an introduction to computer methods. Numerical weather prediction, quantitative precipitation forecasting, and interpretation of prognostic charts. Prerequisite: METEO 431 or 432.

METEO 507 Seminar Course in Meteorology
★6 (1-1s-0).

METEO 530 Advanced Topics in Atmospheric Physics
★3 (first term, 3-0-0). Radiation as the fundamental mechanism for heating and cooling the earth's atmosphere. The transfer of solar and long-wave electromagnetic radiation. Radar meteorology. The role of ozone in the stratosphere. Prerequisite: METEO 430.

METEO 531 Geophysical Fluid Dynamics
★3 (first term, 3-0-0). Planetary fluid dynamics emphasizing waves in the atmosphere. Principles of numerical weather prediction. Prerequisite: METEO 331.

204.53 Microbiology

Department of Microbiology
M330 Biological Sciences Building
University of Alberta
Edmonton, Alberta T6G 2E9

204.53.1 General Information

The Department of Microbiology offers programs leading to the Master of Science and Doctor of Philosophy degrees.

Research in the Department is currently being conducted in such areas as enzyme purification and characterization, enzyme synthesis; immobilization of enzymes and cells; bacterial and fungal metabolites; metabolic control mechanisms; gene cloning, structure and expression; biosynthesis of antibiotics and other secondary metabolites, cloning of enzymes involved in antibiotic synthesis; nitrogen fixation; bacterial transport systems; bacterial adhesion; bacterial gene transfer systems; human and plant bacterial pathogenesis; viral and bacterial ultrastructure; immunology and immunochemistry; degradation of oil and phenolic compounds; corrosion; microbe-plant interactions and other areas of microbial physiology and ecology.

Further information is available through enquiry to the Chair of the Department.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 600 where applicable (see §202.2.2). GRE scores, if available, would be useful in determining acceptability.

Students may enter the graduate program with degrees in agriculture, biochemistry, chemistry, genetics or pharmacy, but will be required to take courses to complete their background wherever deficiencies exist.

Courses offered by the Department of Microbiology will be augmented with those from other departments such as Biochemistry, Chemistry, Genetics, etc. to develop a graduate program appropriate to each applicant's interest and background.

Teaching is normally required as part of a graduate program.

Financial Assistance:

Graduate assistantships, as well as financial assistance from research grants to faculty members, are available for most qualified candidates.

204.53.2 The Degree of MSc

Program Requirements:

The courses required for an MSc degree depend on the area of specialization and the undergraduate background of the student and will be decided by the student's supervisory committee. The minimal course requirement consists of a full-year seminar course, two other formal courses, and a thesis on an approved topic.

There is no language requirement for the MSc degree.

The minimum period of residence is two academic terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary with the individual candidate; however, a minimum of two years is normally required.

204.53.3 The Degree of PhD

Program Requirements:

The courses required for a PhD degree depend on the area of specialization and the undergraduate background of the student and will be decided by the student's supervisory committee. The minimal course requirement consists of a full-year seminar course, four other formal courses, and a thesis on an approved topic.

There is no language requirement for the PhD degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of three years is normally required.

204.53.4 Undergraduate Courses

The following may be taken for graduate credit:

MICRB 303 Microbial Taxonomy
★3 (first term, 3-0-0). The history, principles, and methods of microbial classification and nomenclature. Prerequisites: MICRB 193, 265.

MICRB 311 Microbial Physiology
★3 (first term, 3-0-0). The structure, growth, and metabolic pathways used by bacteria, yeasts, and molds. Emphasis is placed on the comparative biochemical aspects of microbial life. Prerequisites: MICRB 193, 265, BIOCH 301.

MICRB 313 Microbial Physiology Laboratory
★3 (first term, 0-6L-0). Laboratory exercises introduce the microanalytical techniques used for measuring microbial growth and for following metabolic events at the cellular and subcellular level. Prerequisite or corequisite: MICRB 311.

MICRB 324 Animal Virology
★3 (second term, 3-0-3). The characterization, classification, and replication of animal viruses, together with experimental approaches to the use of various tissue culture systems in virology. Prerequisite: MICRB 224. Prerequisite or corequisite: BIOCH 301.

MICRB 332 Microbial Metabolism
★3 (second term, 3-0-0). Comparative aspects of the metabolic pathways used by anaerobes and autotrophic microorganisms for growth on unique energy sources. Ecological implications of such pathways also will be discussed. Prerequisite: MICRB 311.

MICRB 390 Environmental Microbiology
★3 (first term, 3-0-4). Interrelationships between microorganisms and their living and abiotic environment. Topics include methods of sampling and monitoring microbial activities, petroleum microbiology, eukaryotic tissue as an ecological habitat, microbial adaptation to extreme environments, survivial of airborne microorganisms, microbial response to pollution. Prerequisite: MICRB 265.

MICRB 401 Immunology
★3 (second term, 3-0-0). Molecular aspects of immunology. Qualitative and quantitative reactions, properties and structures of antibodies and antigens. Prerequisites: MICRB 193, 370 (or equivalent) and a university course in Biochemistry. Offered in alternate years.

MICRB 405 Immunology Laboratory
★3 (second term, 0-0-3). Laboratory exercises to demonstrate quantitation of the immune response and the isolation and characterization of antigens. Offered as Special Project to a very restricted number of students. Approval of instructor required. Corequisite or Prerequisite: MICRB 401.

MICRB 414 Molecular Biology of Bacterial Viruses
★3 (first term, 3-0-3). The structure and replication of viruses. Prerequisites: MICRB 193; BIOCH 301, and MICRB 224.

MICRB 444 Microbial Laboratory Techniques
★6 (second term, 2-0-8). Current techniques used in the growth of procaryotic cells and the isolation and characterization of their macromolecular constituents e.g. enzymes, DNA and ribosomes. Prerequisite: MICRB 313.

204.53.5 Graduate Courses

Note: Not all graduate courses are given each year.

THES 900 Thesis
THES 999 Thesis

MICRB 406 Topics in Cell Biotechnology
★3 (0-2s-0). This course is designed to develop familiarity with current research literature in Cell Biotechnology. Note: Restricted to Honors Cell Biotechnology students.

INT D 407 Intermediary Metabolism
★3 (first term, 3-0-0). A detailed description of enzymatic reactions in biosynthetic pathways of carbohydrate, amino acid, vitamin and coenzyme metabolism, emphasizing interrelationships among microbial and animal cells. Offered in alternate years. Prerequisites: BIOCH 301 and MICRB 311. [Microbiology]

MICRB 410 Structure of Microorganisms
★3 (second term, 3-0-0). Cellular structure of bacteria and lower eukaryotes with particular emphasis on the use of antibiotics as tools for investigating cell structure. Prerequisite: MICRB 311.

MICRB 415 Biosynthesis of Microbial Metabolites
★3 (second term, 3-0-0). Microbial production of organic acids, antibiotics, vitamins, enzymes, and steroids. Emphasis will be placed on control and regulation of metabolic pathways involved in the formation of these microbial products. Prerequisite: MICRB 311.

MICRB 450 Fermentation Biotechnology
★6 (1-0-6). This course will describe the use of microbes and recombinant DNA constructs in fermentation technology. Course material will also include theoretical aspects of kinetics, design, scale-up and downstream processing. The selection, modification and optimization of the proper organism, medium and fermentation facility and economic considerations will be discussed. Prerequisites: MICRB 311, 313.

MICRB 499 Honors Projects
★12 (0-0-12). Directed laboratory study under supervision of a staff member, submission of a written research

report and participation in departmental seminar program is required. Restricted to Honors Microbiology students in their senior year. Prerequisite: MICRB 313.

LB AN 500 Animal Models for Research
★3 (first term, 2-0-3). Principles and concepts in the selection and utilization of animal models for research. Special reference will be given to procedures of pre- and post-operative animal care, and minor surgery techniques. Laboratory project sessions. Enrollment limited to ten students.

MICRB 507 Cellular Control Mechanisms
★3 (second term, 0-0-6).

MICRB 508 Recent Developments in Virology
★3 (either term, 3-0-0). Note: Offered alternate years.

MICRB 512 Immunogenesis
★3 (second term, 3-0-0). The phylogenesis and ontogenesis of the immune response. Prerequisite: MICRB 470. See ZOOL 412.

MICRB 600 Immunobiology
★0 (second term, 0-1s-0). An advanced seminar series for staff and students, which emphasizes a theme, or a limited number of themes. The seminars are intended as explorations of the biological significance of advances in immunology. Prerequisite: Consent of department.

MICRB 607 Graduate Seminar
★6 (0-3s-0). Required each year of all graduate students. Credit will be given when a satisfactory standard is attained.

204.54 Mining, Metallurgical and Petroleum Engineering

Department of Mining, Metallurgical and Petroleum Engineering
606 Chemical-Mineral Engineering Building
University of Alberta
Edmonton, Alberta T6G 2G6

204.54.1 General Information

The Department of Mining, Metallurgical and Petroleum Engineering offers graduate courses and provides research facilities for students who wish to pursue advanced studies leading to the degrees MEng, MSc, and PhD in metallurgical engineering, mineral engineering, and petroleum engineering; MSc and PhD in metallurgy; MEng and MSc in mining engineering; and MEng and MSc in metallurgical engineering (welding).

Active research areas in the Department include mineral processing; coal preparation; modelling and simulation; intelligent processing of materials and solidification processing; hydrometallurgy; pyrometallurgy; high temperature electrochemistry; corrosion; physical and mechanical metallurgy; process metallurgy; welding metallurgy; powder metallurgy; ancient materials; ceramic materials; electronic materials; geomechanics applied to mining; geostatistics; simulaton of mining systems; application of bucketwheel excavators; mine productivity; mineral economics; properties of coal; coal gasification; liquefaction, multiphase flow through porous media; immiscible, miscible and micellar flooding; heavy oil recovery using thermal energy; interfacial phenomenon, pressure build up and drawdown analysis, and mathematical simulation of petroleum recovery systems pressure buildup and drawdown analysis.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree in engineering or the basic sciences with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution. Where applicable (see §202.2.2), candidates must pass the TOEFL test with a minimum score of 575, MELAB (Michigan English Language Assessment Battery) with a score of 85. Applicants for Metallurgical or Petroleum programs must submit the results of a GRE.

Financial Assistance:

Financial assistance is available in the form of scholarships and fellowships (see Awards section of this Calendar), and through the Department in the form of teaching and research assistantships (available for Canadian students and students holding valid work permits). The assistantships are available on a full-time or part-time basis with remuneration according to the student's qualifications and hours of service. Summer assistance can sometimes be arranged for students without scholarship support who continue their research through the summer months. Assistantships are limited, and applicants should investigate every opportunity to obtain funds outside the University of Alberta.

204.54.2 The Degree of MSc

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student; however, the MSc program shall contain not less than 15 units of course weight in graduate-level courses plus one graduate seminar and a thesis.

There is no language requirement for the degree.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MSc will vary with the individual candidate; however, a minimum of 18 months of study and research is normally required.

MSc Degree in Welding Engineering

The Master of Science in Welding Engineering will require the completion of 18 units of course weight, the graduate seminar, plus a thesis. The degree awarded will be Master of Science in Metallurgical Engineering (Welding).

204.54.3 The Degree of MEng

Program Requirements:

Registration in the Master of Engineering programs is restricted to engineering graduates. MEng programs normally consist of 30 units of course weight, plus an engineering project equivalent to six units of course weight.

There is no language requirement for the MEng degree.

The minimum residence requirement is one four-month term for a BSc graduate with at least one year of post-BSc experience and one session (eight months) for a BSc graduate with less than one year of post-BSc experience.

Length of Program:

A candidate may complete a Master of Engineering program in a minimum of nine months. The maximum time permitted for completion of the program is four years from the date of first registration.

MEng Degree in Welding Engineering

a. Depending on the student's field of study for the student's BSc degree, the student will be assigned to either the Department of Civil Engineering, Mechanical Engineering or Mining, Metallurgical and Petroleum Engineering as the student's home department. Degree designation will be Master of Engineering in field of study in home department (e.g., Master of Engineering in Metallurgical Engineering (Welding).

b. Certain courses must be taken by all students in the program, regardless of educational specialty. Consult with Dr. Barry Patchett for details.

c. Work on the project may be conducted within the University environment or outside in industry; however, approval, control and supervision will remain with the student's supervisor.

204.54.4 The Degree of PhD

Program Requirements:

The minimum course requirement for a PhD program is 15 units of course weight in graduate courses, plus an additional 15 units of course weight in courses as determined in consultation with an adviser, plus two graduate seminars. A major component of the program is the preparation and defence of a thesis on an approved topic.

Before taking the candidacy examination, students in Metallurgical Engineering may have to satisfy their supervisory committee that they possess knowledge of one of French, German or Russian, sufficient for reading publications in the language.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant, and the nature of the research undertaken; however, a minimum of three years is normally required.

204.54.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis
MMPE 900 ★6 Directed Research Project An engineering project for students registered in a Master of Engineering program.

Metallurgical Engineering

MET E 601 Research Techniques in Metallurgy
□3.5 (either term, 2-0-3). Statistical analysis, electron diffraction, crystal growth, diffuse scattering of x-rays, electron emission, high speed strain measurements, internal friction and radioactive tracers. Zone refining, high pressure and vacuum processes. (★3)

MET E 610 Welding Metallurgy
□3.0 (second term, 3-0-0). Heat flow. Effect of welding thermal cycles on weld joints. Weld metal solidification. Metallurgical changes during solidification. Heat-affected zones. Residual stresses and distortion. Ferrous alloy metallurgy. Non-ferrous alloy metallurgy. Dissimilar metal joints. Metallurgy of brazing and soldering. Prerequisite: MET E 450 or equivalent. (★3)

MET E 611 Welding Processes
□3.8 (first term, 3-0-3/2). Process classification and selection. Welding heat sources. Heat transfer, metal transfer, gas-metal and slag-metal reactions. Power source characteristics. Analysis of industrial arc welding processes. Cutting processes. Surfacing and metal spraying. Resistance welding. Solid phase bonding. Brazing and soldering. Welding of plastics. Adhesive bonding. Prerequisite: Consent of instructor. (★3)

MET E 615 Quality Control of Weldments
□3.8 (either term, 3-0-3/2). Quality assurance schemes and audits; destructive and non-destructive testing methods; fabrication code requirements and fitness-for-purpose criteria; welding procedures; statistical methods; case studies. Prerequisite: MET E 450 or consent of instructor. (★3)

MET E 630 Special Topics in Process Metallurgy
□3.0 (either term, 3-0-0). Topics of current interest related to process metallurgy, such as process analysis, mathematical modelling and simulation, metal extraction from secondary sources, iron and steel making, physical chemistry of molten systems and production of industrial minerals. (★3)

MET E 640 Special Topics in Metallurgical Thermodynamics and Kinetics.
□3.0 (either term, 3-0-0). Heterogeneous reactions involving mass transport by diffusion or vapor phase chemical reactions, solid state reactions and formation of non-equilibrium phases. Other subjects of current interest. Prerequisite: MET E 440 or consent of instructor. (★3)

MET E 645 Electrochemical Processes
□3.0 (either term, 3-0-0). Aqueous, molten and solid electrolytes: thermodynamics, structure, transport properties. Applications of conductivity measurements. Electrodes: types, reactions, potential. Electrochemical cells. Applications of EMF measurements. Electrical double layer, electrode kinetics, overpotential. Chlor-alkali industry, electrometallurgy, electrolysis of water, electroplating. Electrochemical energy conversion: primary and secondary batteries, fuel cells. High temperature applications. Prerequisite: MET E 530 or consent of instructor. (★3)

MET E 651 High-Temperature Oxidation
□3.0 (first term, 3-0-0). Lattice defects and diffusion in crystals. Theories of metal oxidation mechanisms. Mechanisms of alloy oxidation. Oxidation by gases other than oxygen. Experimental research methods. Protection of metal surfaces from oxidation. Prerequisite: MET E 545 or consent of instructor. (★3)

MET E 652 Soil Corrosion and its Prevention
□3.0 (second term, 3-0-0). The chemical and physical character of soils; soil surveys and tests; estimation of corrosivity. Types of corrosion, including microbial corrosion, stray currents, stress corrosion. Detecting corrosion with potential measurements, line current, and earth current measurements. Methods of reducing corrosion. Cathodic protection principles, design, testing and measurement. Cathodic equipment and problems. Corrosion control management and economics. Prerequisite: MET E 545 or consent of instructor. (★3)

MET E 653 Stress Corrosion Cracking
□3.0 (first term, 3-0-0). The role of corrodents, stresses and microstructure in the phenomena of stress corrosion cracking; dissolution models and mechanical models proposed as mechanisms. Stress corrosion of high-strength steels, stainless steels and the principal nonferrous metals. Stress corrosion testing and methods of preventing stress corrosion cracking. Prerequisite: MET E 545 or consent of instructor. (★3)

MET E 654 Electrochemical Theory of Corrosion
□3.0 (second term, 3-0-0). Principles and applications of electrochemical corrosion theory in basic and applied research. Equilibrium thermodynamics and electrode kinetics. Passivation and breakdown of passivity. The study of galvanic corrosion; alloy evaluation. Corrosion testing methods and electrochemical measurement of corrosion rates. Prerequisite: MET E 545 or consent of instructor. (★3)

MET E 660 Metallurgical Applications of X-rays
□3.0 (either term, 3-0-0). Production and detection of x-rays; x-ray fluorescence spectroscopy; electron probe microanalysis; interaction of x-rays with crystals; reciprocal lattice construction; single crystal diffraction patterns; powder diffractometry and measurement of preferred orientations, stress, particle size, etc.; x-ray absorption microscopy; x-ray diffraction microscopy. Prerequisite: MET E 457 or consent of instructor. (★3)

MET E 662 Fracture of Metals
□3.0 (either term, 3-0-0). Theoretical strength of solids, Griffith crack theory, mechanisms of brittle and ductile fracture, the ductile to brittle transition, fatigue and creep fracture, environmental effects on fracture. Prerequisite: MET E 450 or MET E 458 or consent of instructor. (★3)

MET E 663 Nuclear Engineering Materials
□3.0 (either term, 3-0-0). Metallurgy of hexagonal close packed metals. Review of metal behaviour in nuclear reactors. The metallurgy of zirconium, with emphasis on applications in nuclear reactors, including texture control, creep and growth in reactor, influence of hydrogen on properties and corrosion and stress corrosion. (★3)

MET E 664 Diffusion and Diffusion-Controlled Processes in Metallurgy and Materials
□3.0 (either term, 3-0-0). Fundamentals of diffusion, diffusion in dilute alloys, diffusion in a concentration gradient, diffusion in non-metals, high diffusivity paths, thermal diffusion. Applications to materials: sintering, superplasticity, creep, metal oxides and non-stoichiometry. (★3)

MET E 665 Materials Applications of Transmission Electron Microscopy
□3.0 (either term, 3-0-0). Principles and design of the transmission electron microscope, specimen preparation, electron diffraction, image contrast theory, introduction to analytical electron microscopy. Applications to defects in metallic and non-metallic crystalline materials. Prerequisite: MET E 458 or consent of instructor. (★3)

MET E 666 Materials Applications of Scanning Electron Microscopy
□3.0 (either term, 3-0-0). Principles and design of the scanning electron microscope, electron beam-specimen interactions, image formation, x-ray microanalysis in the scanning electron microscope, specimen preparation, application to materials analysis. Prerequisite: MET E 458 or consent of instructor. (★3)

MET E 668 Colloidal Ceramics Processing
□3.0 (first term, 3-0-0). Principles and application of colloidal materials to the fabrication of advanced ceramics. Synthesis of fine powders, sols and gels; study of their properties, phase transformation and sintering behaviour during heat treatment. Colloidal ceramics composites. Prerequisite: MET E 480 or consent of instructor. (★3)

MET E 669 Theory of Alloy Phases
□3.0 (either term, 3-0-0). Application of thermodynamics, zone theory and other pertinent concepts to the study of the nature and formation of solid solutions and intermediate phases. Systematic analysis of the variables that are active in alloy formation. Correlation of the nature of bonding, crystal structure and physical properties. Prerequisite: MET E 457. (★3)

MET E 675 Crystal Lattice Imperfections and the Mechanical Behavior of Solids
□3.0 (second term, 3-0-0). Point, line, plane and volume defects in crystalline materials. Properties of defects. Kinetics of formation, migration and annihilation of defects. Surfaces and grain boundaries. Anelasticity, internal friction, creep, radiation damage. Prerequisite: MET E 458 or consent of instructor. (★3)

MET E 676 Special Topics in Physical Metallurgy
□3.0 (either term, 3-0-0). Subjects of current interest such as kinetics of heterogeneous nucleation and phase transformations in solids, grain boundary phenomena, internal friction, physics and chemistry of friction and wear. (★3)

MET E 680 Ceramics
□3.0 (either term, 3-0-0). Important ceramic materials and products, processing, typical properties. Structure: binary and ternary compounds, crystalline silicates, glass. Point defects, nonstoichiometry, defect reactions, dislocations. Diffusion, electrochemical transport, examples. Thermal and mechanical properties, thermal shock resistance, electrical conduction. Applications: solid electrolytes, energy conversion systems, refractories, electronics. Prerequisite: MET E 432 and 457 or consent of instructor. (★3)

MET E 682 Graduate Seminar
□0.5 (0-1s-0). Discussion of progress and problems in research underway in the metallurgical area. Graduate students are required to attend and to give a seminar related to their research. (★3)

Mining Engineering

MIN E 602 Design Project I
□3.0 (first term, 3-0-0). Design of a mining operation. (★3)

MIN E 603 Design Project II
□3.0 (second term, 3-0-0). Continuation and extension of MIN E 602. (★3)

MIN E 611 Mining Property Evaluation
□3.0 (second term, 3-0-0). Ore reserve estimation, with emphasis on geostatistical techniques. Cost estimation, taxation, feasibility analysis, computer simulation approach to decision making. (★3)

MIN E 620 Rock Mechanics
□3.0 (either term, 3-0-0). An advanced treatment of selected topics in rock mechanics. (★3)

MIN E 621 Geomechanics in Underground Mining
□3.0 (either term, 3-0-0). Energy changes due to mining; multi-seam mining; interactions; pillar design in hard rock, coal and potash; strata mechanics in longwall and shortwall coal mining; rock mechanics of potash mining and caving methods; rock bursts and bumps; subsidence; underground rock mechanics instrumentation and applications of numerical methods of stress analysis. Prerequisite: MIN E 423 or equivalent. (★3)

MIN E 622 Surface Mining Systems and Equipment
□3.0 (second term, 3-0-0). An advanced treatment of selected topics in surface mine design, selection of mine equipment, and planning of operations. Prerequisite: MIN E 513 or consent of instructor. (★3)

MIN E 623 Rock Slope Stability in Surface Mining.
□3.0 (either term, 3-0-0). Economic, operational and geological factors affecting slope design. Design stages; collection of structural and strength data. Data synthesis, interpretation, design values. Methods of design, deterministic and probabilistic methods. Bench design. Controlled blasting; stabilization techniques. Monitoring. Spoil pile stability. Prerequisite: MIN E 423 or equivalent. (★3)

MIN E 624 Underground Mining Support
□3.0 (either term, 3-0-0). Classification and mechanics of rock failures around mine openings, roof falls and types of support. Mechanics of artificial supports widely used in mining. Estimating loads for design. Effect of mine environment. Prerequisite: MIN E 423 or equivalent. (★3)

MIN E 630 Advanced Mine Transport
□3.0 (either term, 3-0-0). Advanced studies in the methods and systems of material movement in mines. In-depth consideration of selection, specifications, and costs of transportation for surface and underground mines. Prerequisite: MIN E 430, and MIN E 513, or MIN E 514, or consent of instructor. (★3)

MIN E 640 Simulation of Industrial Systems
□3.0 (first term, 3-0-0). Formulation of models of engineering problems and industrial systems for experimentation using a general purpose simulation language. Statistical and operational validation of simulation results. Prerequisite: Consent of instructor. (★3)

MIN E 650 Special Topics in Mining Engineering.
□3.0 (either term, 3-0-0). Special studies of developments of current interest within the mining industry in exploration, mining methods, mine planning, mine simulation, environment, regulations, economics and management; e.g., tar sands mining, ocean mining, in situ gasification. (★3)

Mineral Engineering

MNL E 630 Advanced Topics in Coal Preparation
□3.0 (either term, 3-0-0). Advanced topics in coal preparation, including the modelling of unit operations used in coal preparation, circuit analysis and optimization and process control. Coal preparation economics. Prerequisite: MET E 431. (★3)

MNL E 635 Coal Conversion and Utilization
□3.0 (second term, 3-0-0). Coal processing, with emphasis on carbonization, gasification, liquefaction and selected aspects of combustion and pollution abatement techniques. Prerequisite: MET E 535. (★3)

MNL E 640 Advanced Topics in Mineral Process Engineering
□3.0 (either term, 3-0-0). An advanced treatment of selected topics of current interest in mineral process engineering. (★3)

MNL E 682 Graduate Seminar
□0.5 (0-1s-0). Discussion of progress and problems in research underway in the mining and mineral process area of the Department. (★1)

Petroleum Engineering

PET E 612 Porous Media
□3.0 (first term, 3-0-0). Physical properties of porous media, with emphasis on transport phenomena in porous media; geometrical and mechanical properties, single phase fluid flow and (miscible and immiscible) multiphase fluid flow through porous media; and heat transfer in porous media. (★3)

PET E 614 Well-Logging and Formation Evaluation
□3.0 (second term, 3-0-0). Petrophysics and modern well-logging methods; discussion of the physical properties of porous media and the measurement of geometric and mechanical properties of the porous media, fluid saturations, chemical composition of the saturating fluids; application of the results in formulation and reservoir evaluation. (★3)

PET E 630 Petroleum Reservoir Engineering
□3.0 (first term, 3-0-0). Characteristics of reservoir materials (rock, reservoir fluids); reservoir evaluation (volumetric method, material balance method with water influx), fundamental production processes (primary recovery). (★3)

PET E 632 Advanced Topics in Petroleum Production Mechanics
□3.0 (second term, 3-0-0). Concepts of reservoir engineering from an advanced point of view as applied to forecasting the performance of oil and/or gas reservoirs; combined driving mechanisms; applications to practical problems encountered during performance by primary means. (★3)

PET E 634 Secondary Recovery
□3.0 (second term, 3-0-0). Evaluation and operation of secondary recovery projects; fundamental consideration of petroleum engineering and reservoir behaviour applied to secondary recovery of oil; recent technical papers. (★3)

PET E 635 Numerical and Analytical Solution of Porous Media Flow Problems.
□3.0 (first term, 3-0-0). The goal of this course is to develop techniques for the solution of a wide variety of single phase flow problems in porous media for compressible and incompressible flow. Two dimensional flow will be considered for the greater part. Selected mathematical techniques, analytical as well as numerical, will be developed for specific problems. In a number of cases, analytical and numerical solutions will be compared. (★3)

PET E 644 Fluid Mechanics of Natural Gas Production
□3.0 (first term, 3-0-0). Single and multiphase flow in circular conduits; steady and transient single phase flow in porous media. (★3)

PET E 650 Reservoir Simulator Development
□3.0 (second term, 3-0-0). The principal objective of this course is the development of reservoir simulation theory to the level required for the construction of a three-phase, three-dimensional reservoir simulator. In addition to providing practice in developing a simulator, the course will also cover recent advances in simulation and history matching. (★3)

PET E 668 Advanced Well Test Analysis
□3.0 (second term, 3-0-0). Analytical techniques employed to solve complex well test problems. Pressure derivative analysis. Production time effects on buildup analysis. Pressure transient analysis for fractured wells. Layered reservoir testing. Prerequisite: PET E 468 or consent of instructor. (★3)

PET E 682 Graduate Seminar
□0.5 (0-1s-0). Discussion of progress and problems in research underway in the Department. (★1)

PET E 684 Oil and Gas Property Evaluation
□3.0 (second term, 3-0-0). Economic structure of the petroleum industry; factors influencing oil economics; the value of money; taxation of oil and gas properties and income; engineering analysis; application of data in the analysis; estimation of costs; evaluation of processing facilities; analysis of profitability; the evaluation report. (★3)

PET E 694 Advanced Topics in Petroleum Engineering
□3.0 (either term, 3-0-0). An advanced treatment of selected petroleum engineering topics of current interest to staff and students. (★3)

204.54.6 Reading Courses

Metallurgical Engineering

MET E 738 Process Metallurgy
□3.0 (either term, 3-0-0). (★3)

MET E 778 Physical Metallurgy
□3.0 (either term, 3-0-0). (★3)

Mining Engineering

MIN E 710 Mining
□3.0 (either term, 3-0-0). Readings and discussion of selected topics in mining engineering. (★3)

Petroleum Engineering

PET E 732 Reservoir Engineering
□3.0 (either term, 3-0-0). (★3)

PET E 734 Secondary Recovery
□3.0 (either term, 3-0-0). (★3)

PET E 744 Natural Gas Engineering
□3.0 (either term, 3-0-0). (★3)

204.55 Music

Department of Music
3-82 Fine Arts Building
University of Alberta
Edmonton, Alberta T6G 2C9

204.55.1 General Information

The Department of Music offers programs leading to the degrees of Master of Music and Doctor of Music.

Areas of concentration within the MMus program include: applied music (keyboard instruments, orchestral instruments and voice); choral conducting, composition; ethnomusicology, musicology and the theory of music. The DMus program is offered only in performance (piano or organ).

Application forms, calendars and further information can be obtained from the Associate Chair, Department of Music. Applications must be received by April 1. For further information write to the Associate Chair, Department of Music.

Entrance Requirements:

The Department's minimum admission requirements are a BMus degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2). In the case of the MMus (Ethnomusicology, Musicology) an Honors BA is acceptable in place of the BMus. An audition is required as part of the admission procedure for applicants in Applied Music and Choral Conducting; sample papers must be submitted by applicants in Ethnomusicology, Musicology and the Theory of Music, and a portfolio of compositions by applicants in Composition. Applicants must also submit a one-page statement of purpose. Placement tests in music history (all periods) and music theory (tonal and chromatic harmony, two and three part counterpoint and aural skills) will be given to entering graduate students. The results of these tests may lead to program requirements in addition to those set forth below.

Financial Assistance:

Graduate students in music are eligible to compete for the general graduate awards listed in §206 of this Calendar, and are encouraged to do so. Inquiries should be directed to the Director of Student Awards. Graduate assistantships are available within the Department; inquiries should be addressed to the Associate Chair of the Department.

204.55.2 The Degree of MMus

Program Requirements:

The MMus program in applied music will include MUSIC 505, 621, 635 or 639, and nine units of course weight in music options. All MMus (Applied Music, Band, and Orchestral Instruments) are required to participate in a large ensemble for one year. An essay on some carefully defined subject closely allied to the applied music major must be successfully completed prior to the student's graduate recital jury examination. The jury examination will be considered the equivalent of the final oral examination. Keyboard performers may specialize in solo performance, chamber music, pedagogy, or vocal accompanying/coaching.

The MMus program in composition will include MUSIC 505, 651, 652, 660 and nine units of course weight in music options. In addition, students who have not taken at least three units of course weight in electronic music in their undergraduate training will be required to take MUSIC 444. A group of compositions by the candidate is to be presented in a public recital during the candidate's period of residence. A thesis in the form of a major composition is required.

The MMus program in music theory will include MUSIC 505, 651, 652, three units of course weight in a music theory option, six units of course weight in a music history option, and six units of course weight in a music option. A thesis is required.

The MMus program in musicology will include MUSIC 505; a three units-of-course-weight seminar selected from MUSIC 604, 605, 606 or 643; two, three units-of-course-weight seminars selected from MUSIC 508, 509, 606, 607, 608, 613, 615, and 616; three units of course weight in theory selected from MUSIC 544, 545, 638, 651 or 652; and 9 units of course weight in options in music history or theory. A thesis is required.

The MMus program in Choral Conducting will include MUSIC 505, 630, 640, and 12 units of course weight in music options. An essay on some aspect of choral literature or conducting must be completed successfully prior to the student's graduate recital. The recital will be considered the equivalent of the final oral examination.

The MMus program in ethnomusicology will include MUSIC 505, 665, one graduate music seminar, three units of course weight in Cultural Anthropology, six units of course weight in a music option. A thesis is required.

All Master of Music candidates in Choral Conducting, Composition, Ethnomusicology, Musicology and the Theory of Music are required to demonstrate a reading knowledge of French, German or another language other than English, appropriate to the area of research. This requirement must be completed before the thesis is undertaken. For MMus candidates in the Applied Music program no language other than English is required.

The minimum period of residence for the MMus degree is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of two years is normally required.

204.55.3 The Degree of DMus

Entrance Requirements:

The entrance requirement is an MMus degree or equivalent and evidence of outstanding ability and accomplishment in the area of specialization. Placement examinations will be required of graduates from other institutions and of University of Alberta graduates who have held their master's degrees for more than two years prior to application.

DMus candidates will be required to demonstrate reading proficiency in one approved language other than English before being admitted to candidacy.

Program Requirements:

Courses of study for DMus students will be formulated by the Department according to individual need; however, 30 to 36 units of course weight are normally required.

The DMus candidacy examination will be in two parts, written and oral, and will cover music history, music theory, and the literature of the major instrument. The examination should normally be taken near the end of the student's second year as a provisional candidate and must be successfully completed before the third required public performance. The oral part of the examination must take place not later than one month after successful completion of the written part of the examination. If the student fails the examination, all or a portion of it may be repeated once within one year of the first attempt, at the discretion of the committee.

In lieu of a formal dissertation DMus candidates will write a scholarly essay and present at least four public performances including a solo recital, a lecture recital, a chamber music recital, and a second solo or chamber music recital or solo performance with orchestra.

The final examination for the DMus degree will include a defence of essay and performances.

In addition to the regulations outlined above, the general regulations for the PhD degree stated in §203.2.1 also apply.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary with the individual candidate; however, a minimum of three years of study and research is normally required.

204.55.4 Undergraduate Courses

The following courses may be taken for graduate credit:

MUSIC 320 Diction for Singers
★3 (0-2L-0). Prerequisite: MUSIC 121 (Voice) or equivalent. Note: A single-term course offered over the full session.

MUSIC 400 Studies in the History of Opera
★3 (either term, 3-0-0). Prerequisite: MUSIC 203, 204, and 205.

MUSIC 401 Studies in the History of the Symphony
★3 (either term, 3-0-0). Prerequisite: MUSIC 204 and 205.

MUSIC 406 Liturgics and Service Improvisation
★6 (0-3L-0). Prerequisite: MUSIC 221 or 224 (Organ) and consent of Department.

MUSIC 407 Studies in the History of the Concerto
★3 (either term, 3-0-0). Prerequisite: MUSIC 203, 204, and 205.

MUSIC 408 Studies in the History of Chamber Music
★3 (either term, 3-0-0). Prerequisite: MUSIC 203, 204, and 205.

MUSIC 410 Studies in Musical Style I
★3 (either term, 3-0-0). Prerequisite: Consent of depar ment.

MUSIC 411 Studies in Musical Style II
★3 (either term, 3-0-0). Prerequisite: Consent of depar ment.

MUSIC 413 Studies in the History of Jazz
★3 (either term, 3-0-0). Prerequisite: MUSIC 213.

MUSIC 425 Applied Music★6 (2-0-0).

MUSIC 427 Continuo Realization
★3 (either term, 0-3L-0). Prerequisite: MUSIC 250, 25 and consent of the instructor.

MUSIC 437 Modal Counterpoint
★3 (either term, 3-0-0). Prerequisite: MUSIC 150. Note Not open to students with credit in MUSIC 338.

MUSIC 438 Eighteenth-Century Fugue
★3 (either term, 3-0-0). Prerequisite: MUSIC 237. No open to students with credit in MUSIC 545.

MUSIC 444 Electroacoustic Music I
★3 (first term, 0-3L-0). Prerequisite: MUSIC 205, 25(and 251.

MUSIC 445 Electroacoustic Music II
★3 (second term, 0-3L-0). Prerequisite: MUSIC 444 an consent of department.

MUSIC 501 Music History Seminar I
★3 (either term, 0-3s-0). Prerequisite: Consent of de partment.

MUSIC 502 Music History Seminar II
★3 (either term, 0-3s-0). Prerequisite: Consent of de partment.

MUSIC 505 Bibliography and Methods of Research
★3 (either term, 3-0-0). Prerequisite: MUSIC 205.

MUSIC 508 Seminar in Canadian Music
★3 (either term, 0-3s-0). Prerequisite: MUSIC 205.

MUSIC 509 Seminar in American Music
★3 (either term, 0-3s-0). Prerequisite: MUSIC 205.

MUSIC 525 Applied Music★6 (2-0-0).

MUSIC 531 History of Organ Building and Design
★3 (either term, 3-0-0). Prerequisite: Consent of department.

MUSIC 540 Vocal Ensemble
★3 (0-4L-0). Prerequisite: Consent of department, based upon audition. A single-term course offered over the full session.

MUSIC 544 Advanced Harmony
★3 (either term, 3-0-0). Prerequisite: MUSIC 250.

MUSIC 560 Composition
★6 (3-0-0).

MUSIC 561 Advanced Orchestration
★3 (either term, 3-0-0). Prerequisite: MUSIC 463 or equivalent.

MUSIC 571 Score Reading and Orchestral Literature
★3 (0-2L-0). Prerequisite: MUSIC 421, 450 and 451.

MUSIC 581 Trends in Avant Garde Music
★3 (either term, 3-0-0). Prerequisite or corequisite: MUSIC 450.

204.55.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis

MUSIC 601 Tutorial Study
★3 (either term, 3-0-0). Prerequisite: Consent of department.

MUSIC 604 Seminar in Medieval Music
★3 (either term, 0-3s-0).

MUSIC 605 Seminar in Renaissance Music
★3 (either term, 0-3s-0).

MUSIC 606 Seminar in Baroque Music
★3 (either term, 0-3s-0).

MUSIC 607 Seminar in Classical Music
★3 (either term, 0-3s-0).

MUSIC 608 Seminar in Twentieth-Century Music
★3 (either term, 0-3s-0).

MUSIC 611 Notation of Early Music I
★3 (either term, 0-3L-0).

MUSIC 612 Notation of Early Music II
★3 (either term, 0-3L-0).

MUSIC 613 Seminar in Romantic Music
★3 (either term, 0-3s-0).

MUSIC 615 Seminar in Music History and Literature I
★3 (first term, 0-3s-0).

MUSIC 616 Seminar in Music History and Literature II
★3 (second term, 0-3s-0).

MUSIC 621 Applied Music
★6 (2-0-0).

MUSIC 624 Applied Study for Non-Performance Majors
★3 (1-0-0). Prerequisite: Consent of department based upon audition.

MUSIC 630 Choral Conducting
★6 (2-0-0).

MUSIC 635 Vocal Coaching
★3 (0-3L-0). Note: A single-term course offered over the full session.

MUSIC 638 Introduction to Medieval and Renaissance Music Theory
★3 (either term, 3-0-0).

MUSIC 639 Vocal and Instrumental Chamber Ensemble
★3 (0-2L-0). Prerequisite: Consent of department, based upon audition.

MUSIC 640 Vocal Ensemble
★3 (0-4L-0). Prerequisite: Consent of department upon audition. Note: A single-term course offered over the full session.

MUSIC 641 Instrumental Ensemble
★3 (0-4L-0). Prerequisite: Consent of department based upon audition.

MUSIC 643 Collegium Musicum
★3 (0-4L-0). Prerequisite: Consent of department based upon audition. Note: A single-term course offered over the full session.

MUSIC 644 Electroacoustic Music
★3 (either term, 0-3L-0).

MUSIC 651 Seminar in Tonal Analysis
★3 (either term, 0-3s-0).

MUSIC 652 Seminar in Post-Tonal Analysis
★3 (either term, 0-3s-0).

MUSIC 653 Pedagogy of Theory
★3 (either term, 3-0-0). Note: Not to be taken by students with credit in MUSIC 551.

MUSIC 654 Seminar in the Theory of Music
★3 (either term, 0-3s-0).

MUSIC 660 Composition
★6 (3-0-0).

MUSIC 665 Seminar in Ethnomusicology
★3 (either term, 0-3s-0).

MUSIC 683 Seminar in Keyboard Literature I
★3 (first term, 0-3s-0).

MUSIC 684 Seminar in Keyboard Literature II
★3 (second term, 0-3s-0).

MUSIC 721 Special Projects in Keyboard Music
★6 (2-0-0).

MUSIC 739 Special Projects in Chamber Music
★3 (0-2L-0). Note: A single-term course offered over the full session. Restricted to Doctor of Music students.

MUSIC 760 Composition in Traditional Styles
★3 (either term, 0-3s-0).

MUSIC 761 Composition in Contemporary Styles
★3 (either term, 0-3s-0).

204.56 Nursing

Faculty of Nursing
3-111 Clinical Sciences Building
University of Alberta
Edmonton, Alberta T6G 2G3

204.56.1 General Information

The Faculty of Nursing offers a two-year program which provides preparation for advanced nursing practice across the health-illness continuum. The aim of the program is to prepare nurses to function as advanced level practitioners in hospital, community, or educational settings. The options of undertaking a Certificate in Nurse-Midwifery along with the Master of Nursing program, and an MN degree with a Nursing Administration minor are also available.

The Faculty of Nursing offers a PhD in Nursing program. The program prepares nurses to advance nursing knowledge through identification of nursing phenomena and the development and testing of nursing theory. The number and types of courses included in the program will vary according to the individual needs of the student.

The Faculty of Nursing is committed to the principle of research-based nursing practice. The Faculty research development program includes visits by leading nurse scientists, a Research Office, community-wide nursing research seminars, thesis seminars, computer facilities, and provision for the communication of nursing research. Also, the Canadian Clearinghouse for Ongoing Research in Nursing (CCORN), housed within the Faculty, provides a computerized data base accessible to North American researchers.

Entrance Requirements:

The Faculty's minimum admission requirements are:

(1) A baccalaureate degree in Nursing with an average of at least 6.5 (approx. 70%) in the work of the final two years (or an equivalent qualification from a recognized institution).

(2) Three letters of reference (criteria described on the application form).

(3) An undergraduate course in each of statistics and research methods.

(4) Normally, applicants wishing to undertake the MN degree program must have a minimum of one year of clinical nursing experience.

(5) A TOEFL score of at least 580 where applicable (see §202.2.2 of this Calendar).

(6) Submission of the results of a Miller Analogies Test (no arbitrary standard is used).

(7) Applicants wishing to undertake the combined MN degree and Certificate in Nurse-Midwifery program must meet the following admission requirements in addition to requirements 1 to 4: (a) appropriate work experience of at least two years in maternal-newborn nursing, including six months (minimum) in labor and delivery, and (b) two of the three required references must be from maternal-newborn work situations.

Upon acceptance into the MN program, the following additional requirements must be met by each student:

(1) A specified schedule of immunization must be completed prior to commencement of clinical practice in the program.

(2) Evidence of active registration in the Alberta Association of Registered Nurses (AARN) of possession of a valid permit from the AARN to practice nursing in Alberta is required.

(3) Completion of Health Assessment (NURS 468) or an equivalent course. MN students who do not meet this requirement must do so by the end of the first year of the MN program. This requirement is in addition to the graduate program courses and entails the payment of extra fees. Credits obtained for such a course are not applicable to the MN degree.

(4) Evidence must be provided of certification at the Basic Rescuer's Level in CPR by December 31 of the first year in the MN program, and evidence of recertification provided in each subsequent year of registration in the MN program.

Financial Assistance:

Information regarding assistantships and other forms of financial assistance will be supplied on request.

204.56.2 The Degree of MN

Program Requirements:

Student programs are designed on an individual basis within the MN curriculum framework. Programs are planned in light of the student's career goals, clinical interests, and research interests of relevance to nursing practice.

Each student's program will normally consist of NURS 502, NURS 503, NURS 505, one course in nursing practice (e.g., NURS 506), one course in the nursing profession (three credits), one graduate-level statistics course (three credits), one graduate-level research course (three credits), and two electives (three credits each). In addition, students are required to register in NURS 599 (Thesis Seminar) for one academic year (two terms) during the program.

A thesis is required for all students.

MN Candidates pursuing a Certificate in Nurse-Midwifery in combination with the MN degree undertake NURS 453, 514, 517, 518, 519, and a course in reproductive physiology.

No language other than English is required for the MN.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program varies according to the candidate's undergraduate preparation and career experience, and the nature of the research undertaken. Generally, a minimum of two academic years plus one summer is required.

204.56.3 Graduate Courses

THES 900 Thesis
THES 999 Thesis

NURS 502 Nature of Nursing Knowledge
★3 (either term, 3-0-0). Enquiry into the nature, scope, and object of nursing knowledge; the distinct contribution of nursing art, philosophy, history, and science. Prerequisite: Consent of the instructor.

NURS 503 Design and Conduct of Nursing Research
★3 (either term, 3-0-0). Experimental, quasi-experimental, historical, and descriptive approaches to the investigation of nursing phenomena.

NURS 505 Advanced Clinical Nursing I
★6 (either term, 0-3s-6). Advanced clinical experience in nursing with emphasis on analysis and use of nursing theories/frameworks. (The hours cited should be regarded as minimum. Individual students may be required to complete additional clinical practice requirements.) Prerequisite or corequisite: NURS 502.

NURS 506 Advanced Clinical Nursing II
★6 (either term, 0-3s-6). Advanced clinical experience in nursing with emphasis on process and activity patterns. (The hours cited should be regarded as minimum. Individual students may be required to complete additional clinical practice requirements.) Prerequisite: NURS 505.

NURS 514 Health Care of Women in the Reproductive Years
★6 (second term, 0-3s-6c). Preconceptual factors influencing pregnancy (including family planning), educational and health assessment, and identification of risk in mothers and families in the prenatal period. In clinical practice, the emphasis will be on the prenatal period. Consent of the instructor required.

NURS 517 Care of the Family During Labor, Delivery and the Postpartum Period
★6 (first term, 0-3s-8c). The course will focus on the nursing care needs of selected low-risk families during labor, delivery, and the postpartum period. Prerequisite: NURS 514 or consent of the instructor.

NURS 518 Social and Cultural Context of Reproductive Care
★3 (second term, 0-3s-3c). An exploration of the major trends in reproductive care, the cultural influences on care, and ethical issues related to reproductive care.

NURS 519 Midwifery Practicum
★6 (Intersession, 0-4c-0). A six-week intensive clinical experience in midwifery care of low-risk families based on an advanced understanding of midwifery principles. Each student will be required to care for a minimum of 25 mothers in labor and conduct the delivery under the guidance of a physician and/or nurse-midwife. Deliveries will be followed-up in the initial postpartum period. Prerequisite: NURS 514 and 517.

NURS 540 Qualitative Methods for Nursing Research
★3 (either term, 3-0-0). An introduction and overview of qualitative research methods (primarily ethnography, ethnoscience and participant observation) and their application for nursing research. Prerequisite: Consent of the instructor.

NURS 550 Advanced Seminar in Trends in Nursing
★3 (either term, 0-3s-0). Advanced analysis of trends, problems and issues in the field of nursing, with emphasis on its interrelationships with other components of the health care system. Prerequisite: Consent of the instructor (elective).

NURS 560 Topics in Advanced Study in Nursing
★Variable (either term, Variable). An elective course aimed at developing in-depth knowledge regarding topic(s) related to advanced-level nursing. Learning experiences may include clinical experience. Normally, NURS 502, 503, and 505 are required prerequisites.

NURS 561 Guided Individual Study in Nursing
★Variable (either term, 3-0-0). A course designed for in-depth, individual study of a topic related to advanced-level nursing. Learning experiences may include clinical experience.

NURS 562 Guided Study in Nursing
★3 (either term, 3-0-0). A course designed for in-depth study, by non-MN students, of a topic(s) directly or indirectly related to advanced level nursing.

NURS 599 Thesis Seminar
★1 (either term, 0-2s-0). Required for one academic year (two terms) of the Master of Nursing program. Prerequisite: NURS 503.

NURS 600 Theory Development
★3 (either term, 3-0-0). Theoretical frameworks, models

of nursing and philosophical underpinnings, as related to other disciplines.

NURS 610 Nursing as a Practical Science
★3 (3-0-0). Conceptualization of nursing as a practical science, with particular attention to relationships with other practical sciences.

NURS 660 Guided Individual Study in Nursing
★3 (either term, 3-0-0). Prerequisite: Consent of the instructor and the Faculty.

NURS 699 Dissertation Seminar
★1 (either term, 0-1s-0). (Compulsory for students in residence). Opportunity for discussion of proposed and ongoing research.

204.57 Occupational Therapy

Department of Occupational Therapy
308 Corbett Hall
University of Alberta
Edmonton, Alberta T6G 2G4

204.57.1 General Information

The Department of Occupational Therapy offers programs leading to the degree of MSc in several fields of study, described below. Availability of courses and research supervision is dependent on department resources; potential students are encouraged to contact the Department directly before applying. The deadline for receipt of applications is March 1.

(1) Work Evaluation: Emphasis on work performance, physical measurement of work, and evaluation of work capacity. Research may be undertaken in collaboration with Western Industrial Research and Training Centre, Goodwill Rehabilitation Services, and other agencies.

(2) Psychosocial Dysfunction: Advanced study in occupational therapy assessment and intervention in psychosocial dysfunction. A number of clinical facilities and teaching hospitals provide opportunities for collaborative research investigations in this area.

(3) Life Span Development: Advanced study in occupational therapy assessment and programming in paediatrics through geriatrics. A number of special schools could provide research opportunities, as well as major centres such as the Glenrose School Hospital, Alberta Children's Hospital in Calgary, the planned Northern Alberta Children's Hospital, Edmonton General Youville Wing.

Entrance Requirements:

The Department generally does not accept students with an overall GPA of less than 6.5 in their last two undergraduate years. Applicants must have an undergraduate degree in occupational therapy, or an equivalent qualification from a recognized institution, plus one year of clinical experience preferably including six months in the field to be studied. Applicants are required to submit three letters of reference. Where applicable (see §202.2.2) applicants must have a minimum TOEFL score of 550. Diploma therapists must complete the undergraduate postdiploma degree completion before applying to the Master's degree program.

Financial Assistance:

Financial assistance may be available in the form of teaching or research assistantships. Other sources of funding may be sought as described in the Awards section of the Calendar, from provincial bursaries, professional associations, private foundations, etc.

204.57.2 The Degree of MSc

Program Requirements:

Each student's program will normally consist of 24 units of course weight at the graduate level (including OCCTH 500, OCCTH 505, OCCTH 521, and EDPSY 500) and a research thesis. Remaining courses should include at least two specific to the field of study, plus relevant courses which may be offered by other departments.

No language other than English is required for the degree.

The period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

Normally a minimum of two academic years are required to complete the MSc program.

204.57.3 Graduate Courses

REHAB 500 Research Seminar
★3 (either term, 0-3s-0). The examination, evaluation and preparation of the research report. Students will discuss critically various aspects including the selection of the problem, the review of the literature, the research hypothesis, the collection and analysis of the data, and the significance of the research.

****OCCTH 505 Instrumentation and Theory in Occupational Therapy**
★3 (either term, 0-3s-0). Measurement principles and their application to occupational therapy. Overview of measurement techniques used by therapists. Prerequisite or corequisite: EDPSY 501 or equivalent.

****OCCTH 515 Occupational Therapy Seminars**
★6 (4-2s-0). Seminars on teaching methods and the preparation of a minimum of two activities to an advanced level in the laboratory.

OCCTH 516 Occupational Therapy Curriculum Design
★3 (3-0-0). Curriculum design principles for clinical and academic settings. Includes consideration of national and international recommendations for essentials of an undergraduate curriculum.

OCCTH 517 Principles of Clinical Instruction in Occupational Therapy
★3 (0-1s-4). Discussion of problems and issues plus application of principles and techniques to occupational therapy instruction in a clinical setting.

OCCTH 521 Program Evaluation in Occupational Therapy
★3 (either term, 0-3s-0). Designed to equip the student with the resources and skills to evaluate occupational therapy program delivery.

OCCTH 525 Occupational Therapy Seminars
★3 (4-2s-0). A continuation of OCCTH 515. Detailed preparation of teaching plans for full academic courses. Formulating lesson plans. Programmed learning.

OCCTH 526 Administration and Supervision Seminar
★3 (0-3s-0). Seminar on health care administrative and management techniques to prepare an individual for a middle management position such as department head.

OCCTH 527 Analysis of Instructional Techniques for Occupational Therapy Education
★3 (0-1s-4). Discussion of problems and issues plus application of educational principles and techniques to occupational therapy education in an academic setting.

OCCTH 528 Practicum
★0 (8 weeks). Credit. Practicum in a specific area of occupational therapy. May be required if the department feels the student needs additional practical experience in their area of concentration. Such experience may be done at any appropriate centre but must occur while the student is enrolled in the graduate program.

OCCTH 532 Clinical Conditions
★3 (either term, 3-0-0). Aetiology, clinical features, and lifestyle implications of various clinical conditions frequently seen in rehabilitation settings. Prerequisite: Consent of department.

OCCTH 533 Human Sexuality
★3 (either term, 0-3s-0). Seminars on sexual concerns as they relate to the counselling process in rehabilitation. Opportunity will be provided for students to practice sexual counselling skills. Prerequisite: OCCTH 532 or consent of department.

OCCTH 534 Group Skills
★3 (either term, 0-2s-1). A seminar/laboratory course designed to provide an advanced theoretical background and practical skills in using Occupational Therapy with groups. Prerequisite: Consent of department.

OCCTH 535 Psychosocial Aspects of Rehabilitation
★3 (either term, 0-3s-0). Discussion of psychological factors affecting physical and psychiatric rehabilitation, and implications for program planning. Prerequisite: OCCTH 532 or consent of Department.

OCCTH 538 Counselling in Rehabilitation
★3 (either term, 0-3s-0). Discussions on specific issues related to counselling handicapped persons. Opportunity to practice and apply communication and counselling skills. Prerequisite: OCCTH 532 or consent of Department.

****OCCTH 540 Applied Neurophysiology and Neuroanatomy**
★3 (either term, 3-0-0). Selected aspects of neurological function and structure needed for analysis of current therapeutic approaches to patients with neurological conditions. Prerequisite: PHYSL 262 and OCCTH 455 or equivalents.

****OCCTH 542 Advanced Research Seminar in Neurology**
★3 (either term, 0-2s-2). Current comprehensive evaluation and treatment procedures for patients with a variety of neurological conditions. Students will be expected to identify problem areas in therapeutic approaches and carry out a research project with minimal supervision. Prerequisite: OCCTH 540 or equivalent.

****OCCTH 554 Advanced Therapeutic Procedures in Psychosocial Dysfunction**
★3 (either term, 0-3s-0). Discussion of various psychc therapeutic activities as they relate to occupation therapy intervention.

****OCCTH 556 Advanced Research Seminar in Psychiatry**
★6 (0-3s-3). A variety of assessment tools will be critical reviewed and the most appropriate ones will be used to d actual client assessment in an interdisciplinary setting Individual programs will be designed, implemented an evaluated for effectiveness. Specific attention will be pai to ICD9-DSM III. Prerequisite: OCCTH 505.

****OCCTH 561 Sensory Integration Dysfunction**
★3 (either term, 2-2s-0). Theory of sensory integrativ dysfunction and remedial techniques. Prerequisite OCCTH 401 or equivalent.

****OCCTH 562 Occupational Therapy Programming for Exceptional Children**
★3 (either term, 0-3s-0). Consideration of current issues in the development of occupational therapy program using a variety of service delivery models in medical educational and community settings.

****OCCTH 563 Development Assessment**
★3 (either term, 2-0-1). Selected measurement tech niques applicable to occupational therapy. Prerequisite OCCTH 505.

****OCCTH 565 Evaluation of Sensory Integration Dysfunction**
★3 (either term, 2-0-2). Administration and interpreta tion of the SCSIT and SCPRN. Acceptable as a CSSIL certification course. Prerequisite: OCCTH 561.

OCCTH 570 Evaluation of Occupational Performance
★3 (either term, 0-3s-0). Presentation of resources and techniques necessary for work evaluation, work adjust ment and work samples used in rehabilitation.

OCCTH 597 Research and Directed Studies
★3 (either term, 0-0-3). Work on a specific project under the supervision of a faculty member. Prior approval of the supervisor and the student's advisor required.

OCCTH 598 Special Seminars
★3 (either term, 0-3s-0). Content varies from year to year. Topics will be announced prior to registration period. Prerequisite: Consent of department. May be repeated.

OCCTH 599 Directed Study
★3 (either term, 0-3s-0). Designed to allow a student to pursue a topic of interest in more depth than permitted by existing courses. Prerequisite: Departmental approval of plan of study. May be repeated.

204.58 Paleontology

Departments of Geology and Zoology

The following table lists renumbered courses effective 1990-91:

Old	New
PALEO 620	PALEO 520

PALEO 318 Paleontology of the Lower Vertebrates
★3 (first term, 3-0-3). Evolution of fish-like vertebrates, amphibians, reptiles and birds, with emphasis on systematics, major adaptive shifts and subsequent evolutionary radiation. Prerequisite: GEOL 201 or ZOOL 225 or ZOOL 200.

PALEO 319 Paleontology of the Higher Vertebrates
★3 (second term, 3-0-3). The Mesozoic history of mammals as illustrative of the origin and evolution of a higher taxon; adaptive radiation of Tertiary mammals, with special emphasis on insectivores, primates, carnivores, proboscidians, and ungulates. Prerequisite: GEOL 210 or ZOOL 225 or ZOOL 200.

†PALEO 414 Advanced Paleontology
★3 (second term, 3-0-0). Contemporary aspects of theoretical Paleontology, including: functional morphology, adaptation and evolution in invertebrate and vertebrate fossils; and distribution of fossils as evidence for continental drift. Prerequisite: GEOL 314 or ZOOL 252/253 or consent of the instructors.

PALEO 520 Problems in Vertebrate Paleontology
★3 (either term, 0-1s-0). Prerequisite: PALEO 318 and 319.

Note: For further related courses see §204.34.5.

204.59 Pathology

Department of Pathology
5B4.02 Walter C. Mackenzie Health Sciences Centre
University of Alberta
Edmonton, Alberta T6G 2R7

204.59.1 General Information

The Department of Pathology provides a program leading to the degree of Master of Science in medical laboratory science or in the field of experimental pathology. In addition, Pathology is one of eight departments working jointly to offer a PhD program in medical sciences. Further information on the PhD interdisciplinary program is found in §204.49.

Inquiries should be directed to the Chair of the Department of Pathology.

Entrance Requirements:

Candidates with either a BSc in medical laboratory science (or related scientific subjects), or an MD or its equivalent in medicine may enter this program. The Department generally does not accept students with an overall grade point average of less than 7.0 in their undergraduate years at the University of Alberta, or an equivalent qualification from a recognized institution. Where applicable (see §202.2.2), candidates must obtain a score of 600 on the TOEFL test. Prerequisite courses will be specified at the time of arrangement of the candidate's program, although some biological sciences, particularly microbiology, biochemistry and physiology should have been studied.

Financial Assistance:

Limited financial assistance is available to some students and is awarded on the basis of merit upon application.

204.59.2 The Degree of MSc

Program Requirements:

The requirements for the degree include course work, seminars and an approved research project. Approved courses offered by the Departments of Anatomy, Biochemistry, Physiology, Pharmacology, and Plant Science may be included in the candidate's program. In certain circumstances courses offered by other departments may be approved.

There is no language requirement for the degree of MSc.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

Candidates with a BSc normally require two years, while those with an MD normally require one year to complete the program.

204.59.3 Graduate Courses

Note: Not all graduate courses are offered each year. The Chair of the Department should be consulted regarding the availability of graduate courses in any academic year.

THES 900 Thesis
THES 999 Thesis

MLSCI 409 Special Project
★3 (second term, 0-0-3).

MLSCI 430 Advanced Haematology
★3 (second term, 3-0-0).

PATH 501 Cellular and Tissue Structure and General Mechanisms of Disease
★6 (78 hours). Advanced seminars on the Cell Cycle; Instrumentation and Techniques of Electron Microscopy; Pathobiology of Lysosomes, Mitochondria and Endoplasmic Reticulum; Humoral and Cellular Mechanisms in Immunology; Hypersensitivity; Autoimmune Diseases; Immunology of Cancer; Immunodeficiency Diseases; Transplantation Immunity; Evaluation of Renal Function; Glomerular Disease; Renal Vascular Diseases; Renal Transplantation; Renal Tumors; Hormonal Mammary Dysplasia; Mammary Tumors; Liver Function Tests; Viral Hepatitis; Cholestasis; Alcoholic Liver Disease; Acute and Chronic Hepatitis; Neoplasms of Liver; Fetal and Neonatal Pathology; Diseases of the Placenta. To be offered in alternate years. Restricted to Postgraduate Medical Education students or consent of department.

PATH 502 Cellular and Tissue Structure and General Mechanisms of Disease
★6 (78 hours). Advanced seminars on Collagen Structure and Function; Blood Coagulation; Bleeding Disorders; Thrombosis and Embolism; Shock; Atherosclerosis; Amyloidosis; Glycogen Storage Diseases; Diabetes Mellitus; Parathyroid Pathology and Metabolic Bone Disease; Disorders of Melanin Metabolism; Nevi and Melanomas; Pathology of Skeletal Muscle; Pathology of the Small Intestine; Pathology of the Colon; Pulmonary Pathology; Pathology of Lymphoid Organs; Parasitology. To be offered in alternate years. Prerequisite: PATH 501, or consent of department. Restricted to Postgraduate Medical Education students or consent of department.

PATH 504 Seminars in General Pathology
★1 (either term, 1-0-0).

PATH 506 Medical Biochemistry
★6 (2-0-0). Advanced seminars on instrumentation, Hepatic, Renal, Pancreatic Endocrine and Exocrine Functions; Enzymology and Diagnostic Applications of Enzyme Determinations, Hyperlipidemias. Prerequisite: Undergraduate courses in Medical Physiology and Biochemistry. To be offered in alternate years.

PATH 507 Medical Biochemistry
★6 (2-0-0). Advanced seminars on Metabolic Disorders of Carbohydrates and Amino Acids, Nutritional Deficiencies and Malnutrition, Endocrine Functions, Organization and Quality Control in Medical Biochemistry. Prerequisite: PATH 506 or consent of department. To be offered in alternate years.

PATH 510 Cryobiology I
★3 (first term, 2-1s-0). Physiochemical changes in aqueous solutions at low temperatures and responses of living cells and tissues to those changes. Current theories of damage and protection during freezing and thawing.

PATH 511 Cryobiology II
★3 (second term, 2-1s-0). Freeze-thaw responses of enzyme systems, individual cells and organized tissues. Preservation of spermatozoa, blood and bone marrow cells, embryos and various tissues. Approaches to the cryopserservation of organs and whole organisms. Applications in medicine and agriculture. Prerequisite: Consent of department.

PATH 520 Pathology Research Seminar
★1 (0-1s/2-0). Graduate seminars presented by graduate students, faculty and guests in the Department. Required of all pathology graduate students.

204.59.4 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department for further information.

PATH 505 Fundamentals of Histochemistry
★2 (first term, 2-0-0).

PATH 610 Subcellular Morphology
★2 (second term, 2-0-0).

204.60 Paediatrics

Department of Paediatrics
2C300 MacKenzie Health Sciences Centre
University of Alberta
Edmonton, Alberta T6G 2R7

204.60.1 General Information

Facilities exist within the Department of Paediatrics for students who wish to proceed to the Master of Science degree. Inquiries should be directed to the Chair of the Department of Paediatrics.

In addition, Paediatrics is one of eight departments working jointly to offer a PhD in medical sciences. (More information on the interdisciplinary program in medical sciences is found in §204.49.) Preference is given to those with an MD degree who wish to obtain training for a career in clinical research. Highly qualified candidates with an MSc or MD, who wish to proceed to a PhD will be considered. Inquiries about this program should be directed to the Chair of the Department of Paediatrics.

Entrance Requirements:

Candidates who wish to apply for either MSc or PhD program must have one of the degrees noted above with an average of at least 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution. Where applicable (see §202.2.2), applicants must obtain a minimum score of 550 on the TOEFL test.

Financial Assistance:

Financial assistance may be available to some students; it is awarded on the basis of merit. Application to outside agencies is encouraged (e.g. Alberta Heritage Foundation for Medical Research, Medical Research Council, and so on).

204.60.2 The Degree of MSc

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student; however, the MSc program normally consists of 18 units of course weight and a thesis. A number of courses will be compulsory (or at the discretion of the supervisor or Department), but the major portion will be dictated by the area of research undertaken by the student.

There is no language requirement for the degree.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MSc will vary with the individual candidate; however, a minimum of two years is normally required.

204.60.3 The Degree of PhD

Program Requirements:

The PhD program normally consists of the preparation and defence of a thesis on an approved topic and appropriate courses as authorized by the supervisor, the student's PhD committee and/or the Department (see §204.49).

No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant as well as the nature and progress of the research undertaken; however, a minimum of two years is normally required.

204.61 Pharmacology

Department of Pharmacology
9-70 Medical Sciences Building
University of Alberta
Edmonton, Alberta T6G 2H7

204.61.1 General Information

The Department of Pharmacology offers graduate programs leading to the degrees of Master of Science and Doctor of Philosophy in pharmacology.

The Department offers a wide range of research fields as determined by the interests of the staff. These include problems in the physiological, biochemical and molecular aspects of pharmacology. Techniques available include electrophysiological and patch-clamp recording, rapid kinetic studies, radioactive tracers, spectrophotometric assays, photofluorometric assays, isolation of cell and fractions.

Graduate studies in pharmacology may be of interest to candidates with general degrees in biology, psychology, physics, chemistry, biochemistry, physiology, bacteriology, pharmacy, neuroscience, medicine, and dentistry.

Graduate and undergraduate courses offered by other departments may be included in a candidate's program by arrangement between the departments concerned.

Inquiries should be directed to the Chair of the Department of Pharmacology.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2). Prerequisite courses will be specified at the time of arrangement of the candidate's program.

Financial Assistance:

Financial support is available for a limited number of students in the form of graduate assistantships.

204.61.2 The Degree of MSc

Program Requirements:

Individual programs vary depending on the student's background, but are designed to provide students with an appropriate graduate education in pharmacology courses. At least nine units of course weight in graduate pharmacology courses are normally required, as well as a thesis on an approved research topic.

There is no language requirement for the degree.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MSc will vary with the individual candidate; however, a minimum of 12 months is normally required.

204.61.3 The Degree of PhD

Program Requirements:

Individual programs vary according on the student's background, but are designed to provide students with an

appropriate graduate education in pharmacology. At least 15 units of course weight in graduate pharmacology courses are normally required, as well as the preparation and defence of a thesis on an approved research topic.

No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of 30 months is normally required.

204.61.4 Advanced Study in Pharmacology

A special program has been arranged for graduates in medicine wishing to spend an additional year in a basic science department. This program does not lead to a degree, but may satisfy some of the course requirements should the student wish to proceed to a master's degree. The program includes graduate courses, a weekly seminar, participation in a research project and optional attendance at undergraduate lectures. Those wishing to undertake the program should register as special students in the Faculty of Medicine

204.61.5 Undergraduate Courses

The following may be taken for graduate credit. (Details of courses are given in the Faculty of Science section of the calendar).

PMCOL 432 General Pharmacology
★6 (3-0-3). Prerequisite: BIOCH 301 or equivalent, and PHYSL 310 and consent of department.

PMCOL 435 Experimental Procedures in Pharmacology
★3 (either term, 1-0-6). Prerequisite: Normally PMCOL 432 or an equivalent course is required as a pre- or corequisite. Consent of department is also necessary.

PMCOL 436 Analytical Techniques
★3 (either term, 1-0-6). Prerequisite: Consent of department.

204.61.6 Graduate Courses

Note: Not all graduate courses are offered each year. The Chairman of the Department should be consulted regarding the prerequisites for and availability of graduate courses in any academic session.

THES 900 Thesis
THES 999 Thesis

PMCOL 501 Pharmacology Tutorial, Research and Reading Course
★3 (first term, 3-0-0).

PMCOL 502 Pharmacology Tutorial, Research and Reading Course
★3 (second term, 3-0-0).

PMCOL 503 Pharmacology Tutorial, Research and Reading Course
★3 Intersession, 3-0-0).

PMCOL 505 Cancer Chemotherapy
★3 (either term, 3-0-0). A survey of the cellular and biochemical pharmacology of agents currently employed in chemotherapy of neoplastic disease; drug metabolism, mechanisms of action and of resistance will be discussed. Given in sequence with Division of Oncology courses. Prerequisite: BIOCH 301 or equivalent and consent of department.

PMCOL 506 The Actions of Drugs on Membranes
★3 (either term, 3-0-0). This course will examine the interactions of drugs with selected membrane lipids, receptors, transporters and enzymes. Prerequisite: Consent of department.

PMCOL 508 Molecular Pharmacology
★3 (either term, 3-0-0). This course aims to provide an understanding of the general mechanisms of drug action at the molecular level. Theoretical aspects of drug-receptor interaction are presented in detail followed by a consideration of the mechanisms of signal transduction that have been associated with different receptor types. Prerequisite: Consent of department.

PMCOL 509 Neuropharmacology
★3 (either term, 3-0-0). This course aims to provide an examination in depth of the mechanisms of action of drugs that influence the central nervous system. The course includes a review of basic membrane biophysics and transmitter biochemistry, before dealing with the major classes of centrally acting drugs. Time will also be devoted to selected special topics. Prerequisite: Consent of department.

PMCOL 510 Advanced Topics
★3 (first term, 3-0-0).

PMCOL 511 Advanced Topics (Cardiovascular Pharmacology)
★3 (either term, 3-0-0). This course aims to provide instruction on current concepts of relevant drug action on both the heart and the vasculature at a molecular level as well as providing an overview of current therapeutic options in the treatment of cardiovascular disease. Prerequisite: Consent of department.

PMCOL 512 Neurotransmitters
★3 (either term, 3-0-0). Current concepts of neurotransmitters, neuromodulators and trophic factors are discussed in the context of the normal, diseased and developing nervous systems. Students should have some biological background either in physiology, pharmacology, zoology, or the neurosciences. Prerequisite: Consent of department.

PMCOL 515 Cardiovascular Pharmacology
★3 (either term, 3-0-0). This course aims to provide instruction on current concepts of drug action at a molecular level, on both inotropy and rhythmicity the heart, and the selevtive control of the vasculature as well as providing an overview of current therapeutic options in the treatment of cardiovascular disease. Prerequisite: PMCOL 432 or equivalent and consent of department.

PMCOL 600 Seminar in Pharmacology
★0 (0-1s-0).

PMCOL 602 Clinical Pharmacology
★3 (either term, 2-0-0). This course is aimed at providing residents in the Faculty of Medicine, together with graduate students in Pharmacology, Phamacy, and Nursing with an understanding of the interaction of basic pharmacological principles that occur during the therapeutic action of drugs in the treatment of disease. The course takes the form of seminars that review clinical cases, with explanatory input from a panel of experts on each aspect of the caes. Prerequisite: Consent of department.

Note: These are also listed in the Faculty of Medicine §124.18.

204.62 Pharmacy and Pharmaceutical Sciences

Faculty of Pharmacy and Pharmaceutical Sciences
3118 Dentistry-Pharmacy Centre
University of Alberta
Edmonton, Alberta T6G 2N8

204.62.1 General Information

The Faculty of Pharmacy and Pharmaceutical Sciences offers programs leading to the Master of Pharmacy, Master of Science and Doctor of Philosophy degrees; a limited number of graduate students can be accommodated in modern well-equipped laboratories.

Research may be undertaken in fields such as pharmaceutics, biopharmaceutics, physical pharmacy, bionucleonics, radiopharmacy, medicinal chemistry, pharmaceutical chemistry, drug analysis, drug metabolism, microbiology, pharmacology, hospital pharmacy, clinical pharmacy, toxicology, and neurochemistry.

Entrance Requirements:

The minimum admission requirements of the Faculty are an undergraduate degree in pharmacy with an average of 6.5 in the last two years of undergraduate (or graduate) work at the University of Alberta or an equivalent qualification from a recognized institution. Individuals with previous degrees in such fields as biology, microbiology, biochemistry, pharmacology or chemistry will be considered. Where applicable (see §202.2.2), applicants must obtain a minimum score of 550 on the TOEFL test.

Financial Assistance:

Financial assistance may be available from the Medical Research Council of Canada, the Alberta Heritage Foundation for Medical Reseach and from other sources.

Prospective candidates should consult with the Dean of Pharmacy regarding the requirements.

204.62.2 The Degree of MPharm

A program combining academic course work, professional experience and research investigation leading to the degree of Master of Pharmacy in clinical pharmacy is offered to acceptable students holding a BSc degree in pharmacy and a licence to practice pharmacy in the province of Alberta. The program integrates a core of required courses with options appropriate to the individual needs and interests of the student. The professional portion of the program consists of research and study in a professional environment.

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student; however, the MPharm program normally consists of 30 units of course weight, clinical rotations and a project equivalent to six units of course weight.

There is no language requirement for the degree.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program is two years of full-time study and research.

204.62.3 The Degree of MSc

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student; however, the MSc program normally consists of a minimum of 12 units of course weight and a thesis.

There is no language requirement for the degree. The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MSc will vary with the individual candidate; however, a minimum of two years is normally required.

204.62.4 The Degree of PhD

Program Requirements:

The PhD program normally consists of 12 units of course weight and the preparation and defence of a thesis on an approved topic.

There is no language requirement for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of two years is required.

204.62.5 Undergraduate Courses

The following may be taken for graduate credit:

MLSCI 260 Clinical Biochemistry
★6 (3-0-3). Prerequisite: CHEM 100 or 104 and 160.

PHARM 415 Biopharmaceutics and Pharmacokinetics
★3 (first term, 3-0-0). Prerequisite: PHARM 320 and PHARM 360. Corequisite: PHARM 431.

H S A 430 Methods and Statistics in Health Services Administration I
★3 (first term, 3-0-0).

H S A 431 Methods and Statistics in Health Services Administration II
★3 (second term, 3-0-0).

PMCOL 436 Analytical Techniques
★3 (either term, 1-0-6). Prerequisite: Consent of department.

PHARM 450 Introduction to Radiopharmacy
★3 (first term, 3-0-2). Prerequisite: Consent of the Faculty.

PHARM 454 Isotopes in Nuclear Medicine
★3 (second term, 5-0-0, second six weeks of term). Prerequisite: PHARM 450 or PHARM 601 or consent of the Faculty.

PHARM 473 Selected Topics in Medicinal Chemistry
★3 (either term, variable). Prerequisite: PHARM 370 and 431, PMCOL 431 or consent of the Faculty.

PHARM 481 Veterinary Pharmacology
★3 (second term, variable).

PHARM 484 Biological Products
★3 (either term, 3-0-0). Prerequisite: MICRB 193 or consent of the Faculty.

PHARM 492 Pharmacy Management I
★3 (first term, 3-0-0).

PHARM 494 Pharmacy Management: Selected Topics
★3 (either term, variable). Prerequisite: PHARM 403.

PHARM 496 Professional Management: Community
★3 (second term, 3-0-0). Prerequisite: PHARM 403.

204.62.6 Graduate Courses

THES 900 Thesis
THES 999 Thesis
PHARM 900 ★6 Directed Research Project

PHARM 551 Clinical Radiopharmacy Laboratory
★3 (second term, 3-0-4, second six weeks of term). A series of laboratory experiments with appropriate introductory lectures designed to acquaint the student with the preparation and quality control of currently used radiopharmaceuticals in nuclear medicine. Prerequisite: PHARM 450 or PHARM 601. (Restricted to Pharmacy students.)

PHARM 554 Radiation Biology
★3 (first term, 3-0-0; second term, 5-0-0 first six weeks of term). Biological effects of ionizing radiation on molecules, cells and whole body systems from the physical, biochemical and clinic viewpoint. Prerequisite: Consent of the Faculty. Background courses in physics and chemistry recommended.

PHARM 561 Pharmaceutical Manufacturing
★3 (first term, 2-0-4). Introduction to the processing of pharmaceutical dosage forms on a manufacturing scale. Requirements of the physiochemical properties of the dosage form, manufacturing equipment, quality control and good manufacturing practices to produce multiple units of a product are discussed and demonstrated. Prerequisite: PHARM 360. (Restricted to Pharmacy students).

PHARM 565 Clinical Pharmacokinetics
★3 (either term, 1-3s-1). A comprehensive course dealing with basic pharmacokinetic principles of dosage regimen calculation and pharmacokinetic considerations relating to the use of various drugs. Clinical pharmacokinetics of therapeutically important drugs will be covered in detail. The laboratory portion is designed to expose the students to the methods used in dosage regimen adjustment based on the clinical status of the patient. Prerequisite: PHARM 415 and 431, PMCOL 431 and consent of the Faculty. (Restricted to Pharmacy students).

PHARM 570 Advanced Pharmaceutical Analysis — Spectroscopy
★3 (first term, 3-0-3). Applications of instrumental methods of analysis (ultraviolet and infrared spectroscopy; NMR; mass spectrometry; atomic absorption spectroscopy) to pharmaceutical compounds.

PHARM 573 Advanced Pharmaceutical Analysis
★3 (second term, 3-0-4, first 6 weeks of term). The theory and application of chromatography techniques eg. thin-layer, gas-liquid, high-pressure liquid chromatography to the identification and quantitation of drugs and drug metabolites.

PHARM 574 Advanced Pharmaceutical Analysis — Forensic Pharmaceutical Analysis.
★3 (second term, 3-0-4, second 6 weeks of term). The theory and application of techniques of analytical forensic toxicology eg. optical and chemical microscopy. UV, IR and GC-Mass Spectrometry, to drugs of misuse and abuse.

PHARM 575 Advanced Pharmaceutical Analysis
★3 (first term, 3-0-3). The theory and application of chromatographic techniques to the identification and quantitation of drugs, drug metabolites, and toxic substances. An introduction to forensic analyses, types of screening tests, and the systematic analysis of biological samples for drugs and specific poisons. Prerequisite: PHARM 325 or consent of the Faculty. Corequisite: PHARM 570 or consent of the Faculty.

PHARM 586 Pharmaceutical Toxicology
★3 (either term, 3-3s-0). Methods used to evaluate the toxic potential of drugs and other chemicals, including a discussion of selected topics in toxicology, such as environmental hazards, respiratory toxicity and neurotoxicity of chemicals. Seminars will cover specific problems in predictive toxicology and the toxicity of specific agents. Prerequisite: PHARM 431 and PMCOL 431 or consent of the Faculty.

PHARM 593 Advanced Radiopharmaceutical Sciences II
★3 (first term, 3-0-4). Application of radionuclides in medical diagnosis and treatment; control of radionuclides in the hospital. Laboratory: preparation, quality control and clincal utility of currently used radiopharmaceuticals in nuclear medicine. Prerequisite: PHARM 443 or PHARM 501 or consent of the Faculty.

PHARM 595 Clinical Rotations
★6 (900 hours). A clinical experience which will provide the student with the opportunity to practice clinical pharmacy in several specialty areas. The student will be expected to demonstrate professional competence in patient counselling, obtaining medication histories, providing drug information, applied pharmacokinetics and related areas. Credit will be granted after the completion of 900 hours of approved clinical training.

PHARM 601 Isotope Tracer Methodology I
★3 (first term, 3-0-3). Fundamental principles of radioactivity and health physics. The importance of radioisotopes in medicine, agriculture, industry, and research. Problems and limitations in the use of radioisotopes as tracers. Instrumentation and analysis methods. Experimental procedures, application of methods of analysis and criteria for evaluation of results. Laboratory: handling and preparation of radioisotopes for counting. Counting procedures. Tracer chemical and biochemical analyses.

PHARM 603 Activation Analysis
★3 (second term, 2-0-0). Physical and chemical basis of activation analysis, use of slow neutrons from the Slowpoke reactor, proton and charged particle activation; x-ray fluorescence; modern pulse-height analysis technique. Prerequisite: Consent of Faculty. Note: Offered alternate years.

PHARM 604 Applied Problems in Current Research
★3 (either term, 0-0-3). The student will work with one or two faculty members on special research techniques in bionucleonics or radiopharmacy. Prerequisite: Consent of the Faculty.

PHARM 605 Radiopharmaceutical Chemistry
★2 (second term, 2-0-0). A discussion of preparation of short-lived radiopharmaceuticals with emphasis on radiochemical synthesis using carbon-11, fluorine 18 and radionuclides of iodine and bromine; stability, storage and purity of radio-labelled compounds; labelling with long-lived radionuclides. Prerequisite: Consent of the Faculty. Note: Offered alternate years.

PHARM 606 Current Topics in Bionucleonics and Radiopharmacy
★3 (either term, 3-0-0). Assigned readings, tutorials and seminars in recent advances in the fields of Bionucleonics and Radiopharmacy, conducted under the direction of several faculty members. Prerequisite: PHARM 601, 603, 604 or consent of Faculty.

PHARM 610 Advanced Physical Pharmacy
★3 (first term, 3-0-4). Special topics of a physical-chemical nature applicable to pharmaceutical systems. Emphasis is given to principles of colloid and surface science. Applications to dosage form design and biological systems are considered. Laboratory: experimental work in application of physicochemical principles to pharmaceutical systems. Prerequisite: Consent of Faculty.

PHARM 611 Pharmaceutical Formulation and Development
★3 (second term, 3-0-4). Theoretical considerations basic to the technology of pharmaceutical dosage forms to meet the requirements of therapeutic efficacy, stability, and safety. Laboratory: development and formulation of pharmaceutical products. Prerequisite: Consent of Faculty.

PHARM 615 Advanced Pharmacokinetics
★3 (second term, 3-0-0). This course deals with the theoretical apsects of pharmacokinetics. Compartmental and non-compartmental theories are treated in depth. The application of these theories is made in various areas where kinetics are involved. Prerequisite: PHARM 415 or equivalent or consent of the Faculty. Note: Offered alternate years.

PHARM 624 Application of Nuclear Magnetic Resonance Spectroscopy to Medicinal and Pharmaceutical Chemistry.
★3 (first term, 3-0-0). Basic interpretation and examples of use of N.M.R. spectroscopy in problems of pharmaceutical synthesis and its studies of the mode of action of medicinally active compounds. Prerequisite: Consent of the Faculty. Note: Offered alternate years.

PHARM 626 Applications of Mass Spectrometry to Medicinal and Pharmaceutical Chemistry.
★3 (second term, 3-0-0). Examples of the use of mass spectrometry in the identification of medicinal compounds are considered. Diagnostic spectra of extracts of medicinal preparations, identification of drug metabolites and applications of mass spectrometry to chemical toxicology and neurochemistry are studied. Prerequisite: Consent of the Faculty. Note: Offered alternate years.

PHARM 630 The Metabolism and Excretion of Drugs
★3 (second term, 3-0-0). The chemistry, biochemistry and kinetics of drug metabolism together with the factors affecting metabolism; the practical aspects of in vitro and in vivo studies of drug metabolism; the excretion of drugs by various routes and factors affecting excretion, the kinetics of excretion. Note: Offered alternate years.

PHARM 664 Advanced Topics in Clinical Pharmacy
★3 (first term, 1-0-3). Tutorial and practicum sessions used to review advances in therapeutics and to demonstrate clinical pharmacy responsibilities in a selected number of disease states. The student will have the opportunity to develop practical skills in establishing safe and effective drug use and in providing patient directed information on specific therapeutic agents. Major areas such as hypertension, diabetes and renal disorders will be considered. Prerequisite: PHARM 404, 431, and PMCOL 431 or consent of the Faculty.

PHARM 699 Graduate Seminar
★0.0 (0-1s-0). Graduate students present seminars on topics related to their field of specialization.

204.63 Philosophy

Department of Philosophy
4-108 Humanities Centre
University of Alberta
Edmonton, Alberta T6G 2E5

204.63.1 General Information

The Department offers programs leading to the Master of Arts and Doctor of Philosophy degrees.

The fields in which advanced study may be pursued include ethics; aesthetics; history of ancient, medieval and modern philosophy; logic; philosophy of science; epistemology; philosophy of language; philosophy of mind; and contemporary European and Anglo-American philosophy. Inquiries concerning possible subjects for research should be directed to the Chair of the Department.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2).

Financial Assistance:

Graduate students in the Department are eligible to compete for the general graduate awards listed in §206 and are encouraged to do so. Inquiries should be directed to the Director of Student Awards. Graduate assistantships are available within the Department; inquiries should be addressed to the Chair of the Department.

204.63.2 The Degree of MA

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student; however, the MA program normally consists of 18 units of course weight and a thesis.

There is no language requirement for the degree of MA.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

Candidates who have completed training equivalent to that of graduation with Honors in philosophy from this Department will normally require one year to complete the master's program. Other candidates for the MA degree may take up to two years to complete the requirements for the degree. Students with very little background in philosophy may be required to enroll in a qualifying year, or as a special student before being considered eligible for admission to a graduate degree program.

204.63.3 The Degree of PhD

Program Requirements:

The PhD program normally consists of 18 units of course weight and the preparation and defence of a thesis on an approved topic.

Before taking the oral candidacy examination a student in the PhD program must have passed comprehensive examinations in four areas of the student's choice and satisfied the logic requirement.

Students whose field of research involves primary-source material in a language other than English shall in addition be required to pass an appropriate language examination.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of three years is normally required.

204.63.4 Graduate Courses

The following table lists renumbered courses effective 1991-92:

Old	New	Oid	New
PHIL 502	PHIL 530	PHIL 536	PHIL 592
PHIL 504	PHIL 532	PHIL 545	PHIL 500
PHIL 505	PHIL 534	PHIL 554	PHIL 552
PHIL 506	PHIL 536	PHIL 556	PHIL 544
PHIL 508	PHIL 542	PHIL 557	PHIL 590
PHIL 509	PHIL 543	PHIL 559	PHIL 516

PHIL 510	PHIL 545	PHIL 561	PHIL 520
PHIL 511	PHIL 546	PHIL 563	PHIL 501
PHIL 512	PHIL 593	PHIL 564	PHIL 510
PHIL 516	PHIL 547	PHIL 568	PHIL 505
PHIL 519	PHIL 594	PHIL 570	PHIL 526
PHIL 522	PHIL 550	PHIL 580	PHIL 572
PHIL 524	PHIL 570	PHIL 581	PHIL 596
PHIL 526	PHIL 580	PHIL 582	PHIL 597
PHIL 528	PHIL 595	PHIL 676	PHIL 696
PHIL 531	PHIL 591	PHIL 677	PHIL 697

Note: Only a selection of the courses listed below are offered each year.

THES 900 Thesis
THES 999 Thesis

PHIL 497 Honors Tutorial IV
★3 (second term, 3-0-0). Prerequisite: Consent of department.

PHIL 500 Metaphysics
★3 (either term, 3-0-0).

PHIL 501 Epistemology
★3 (either term, 3-0-0).

PHIL 505 Philosophy of Mind
★3 (either term, 3-0-0).

PHIL 510 Philosophy of Science
★3 (either term, 3-0-0).

PHIL 516 Philosophy of Social Science
★3 (either term, 3-0-0).

PHIL 520 Topics in Logic
★3 (either term, 3-0-0).

PHIL 526 Philosophy of Language
★3 (either term, 3-0-0).

PHIL 530 Plato
★3, or ★6 (either term, 3-0-0).

PHIL 532 Aristotle
★3, or ★6 (either term, 3-0-0).

PHIL 534 Topics in Greek Philosophy
★3 (either term, 3-0-0).

PHIL 536 Topics in Medieval Philosophy
★3 (either term, 3-0-0).

PHIL 542 Descartes
★3 (either term, 3-0-0) or ★6 (3-0-0).

PHIL 543 Locke
★3 (either term, 3-0-0) or ★6 (3-0-0).

PHIL 544 Kant
★3 (either term, 3-0-0) or ★6 (3-0-0).

PHIL 545 Hegel
★3 (either term, 3-0-0) or ★6 (3-0-0).

PHIL 546 Topics in Modern Philosophy
★3 (either term, 3-0-0).

PHIL 547 Topics in Twentieth Century Philosophy
★3 (either term, 3-0-0) or ★6 (3-0-0).

PHIL 550 Moral Philosophy
★3 (either term, 3-0-0).

PHIL 552 Theory of Value
★3 (either term, 3-0-0).

PHIL 570 Social and Political Philosophy
★3 (either term, 3-0-0).

PHIL 572 Philosophy of Law
★3 (either term, 3-0-0).

PHIL 580 Aesthetics
★3 (either term, 3-0-0).

PHIL 590 Philosophy of Religion
★3 (either term, 3-0-0).

PHIL 591 Existentialism
★3 (either term, 3-0-0).

PHIL 592 Phenomenology
★3 (either term, 3-0-0).

PHIL 593 Marx and Marxism
★3 (either term, 3-0-0) or ★6 (3-0-0).

PHIL 594 Selected Problems in Philosophy
★3 (either term, 3-0-0).

PHIL 595 Philosophy of History
★3 (either term, 3-0-0).

PHIL 596 Directed Reading I
★3 (either term, 3-0-0). Prerequisite: Open only to graduate students beyond the qualifying year.

PHIL 597 Directed Reading II
★3 (either term, 3-0-0). Prerequisite: Open only to graduate students beyond the qualifying year.

PHIL 696 Directed Reading III
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Open only to provisional PhD candidates.

PHIL 697 Directed Reading IV
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Open only to provisional PhD candidates.

204.64 Physical Education and Sport Studies

Department of Physical Education and Sport Studies
421 Universiade Pavilion
University of Alberta
Edmonton, Alberta T6G 2H9

204.64.1 General Information

The Department of Physical Education and Sport Studies offers programs leading to the degrees of Master of Arts, Master of Science and Doctor of Philosophy.

Well-equipped facilities are available for a limited number of graduate students. Areas of specialization include biological, behavioural and socio-cultural studies.

Deadline for receipt of completed applications for the following academic year is February 28. Normally, all students are expected to begin their program in the September term. Applications will be considered after this date but only if program vacancies exist. For further information write to: Chair, Graduate Program, Department of Physical Education and Sport Studies.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of at least 7.0 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution.

In addition to the above, all non-Canadian students for whom English is not their native language must pass, with a minimum score of 600, the Test of English as a Foreign Language (TOEFL) before formal admission approval can be given. (See §202.2.2 of the calendar for further information on English language examinations.)

The requirements for entry into the master's program is the BPE degree from the University of Alberta or its equivalent. Equivalence will be determined by the Graduate Program Chair and any deficiencies will be made up during the applicant's qualifying year or years.

The requirement for entry into the PhD program is a master's degree in physical education and sport studies with thesis. Applications from individuals with a master's degree without thesis are considered by the Graduate Chair on individual merit, providing documentary evidence is supplied attesting to the student's research capabilities. Before enrolment in the PhD program is permitted, a student who has gained tentative acceptance must provide documentary evidence stating that all requirements towards fulfillment of a master's degree have been met.

Financial Assistance:

Graduate assistantships are available to a limited number of students.

204.64.2 The Degree of MA

Both a thesis-based and a course-based option are available in the MA degree program. While both are research-oriented programs, the thesis program requires fewer courses and places more emphasis on the research.

Students entering the course-based MA route must possess a bachelor of physical education and sport studies degree or equivalent, and are expected to have professional experience in the field of physical education and sport studies.

The Department offers a part-time, course-based MA program. Students entering this route must possess a bachelor of physical education and sport studies degree or equivalent as well as two years of professional experience in the field of physical education and sport studies.

Program Requirements:

The normal requirements for the thesis-based MA are the completion of 24 to 36 units of course weight in addition to the thesis.

Students enrolled in the course-based MA program must complete as a minimum, the equivalent of 36 to 42 units of course weight. A significant piece of scholarly writing in the form of a project equivalent to six units of course weight is also required.

There is no language requirement for the degree of MA.

For the MA route with a residence requirement, the minimum period of residence is two, four-month terms of full-time attendance at the University of Alberta.

Students must complete the MA degree requirements within four years.

Length of Program:

Depending on the candidate's qualifications, the candidate for the MA should anticipate 18 months to two years to complete the program.

204.64.3 The Degree of MSc

Program Requirements:

The normal requirements for the MSc degree are th completion of 24 to 36 units of course weight in addition t the thesis.

No language other than English is required.

The minimum period of residence is two four-mont terms of full-time attendance at the University of Alberta.

Length of Program:

Depending on the candidate's qualifications, th candidate for the degree of MSc should anticipate 1 months to two years to complete the program.

204.64.4 The Degree of PhD

Program Requirements:

The PhD degree is a research degree; however, number of specific courses are required within the variou areas of specialization. Please consult the staff withi each specified area for further details. All courses must b approved by the Department of Physical Education an Sport Studies. Emphasis is on research leading to th dissertation rather than on course work. No languag other than English is required for the PhD.

The minimum period of residence is two academi years of full-time attendance at the University of Alberta.

Length of Program:

The PhD degree will normally require three year beyond the master's level.

204.64.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis
PESS 900 ★6 Directed Researach Project A significant piece of scholarly writing.

PESS 500 Seminar in Biomechanics
★3 (either term, 0-3s-0).

PHYSL 507 Thermoregulation and Energy Exchange
★3 (second term, 1-2s-0). Prerequisite: Introductor physiology course or consent of department.

PESS 510 Anthropometry and Physical Activity
★3 (either term, 1-2s-0). An examination of curren research in anthropometry and body composition with special emphasis on obesity and weight control.

PESS 511 Exercise Testing and Exercise Prescription
★3 (either term, 1-1s-2).

PESS 515 Exercise Physiology Laboratory Techniques
★3 (either term, 1-0-3). Prerequisite: Consent o department.

PESS 516 Muscular Strength and Endurance
★3 (either term, 0-3s-0). Study of muscle contraction with emphasis on underlying mechanisms for improvec functioning of cardiac and skeletal muscles.

PESS 520 Physical Growth and Development
★3 (first term, 0-3s-0). An examination of selected topics in physical growth and motor development from both a theoretical and applied perspective.

PESS 530 Adapted Physical Education
★3 (second term, 0-3s-0). Seminar on current theoreti cal, practical and research issues in adapted physica education.

PESS 533 Creative Dance: Acquisition and Development in Children
★3 (first term, 0-3s-0). Examination of predominant theories and practices in creative dance for children. Central emphasis: the study of the developmental phases of creative dance products by children aged 4 to 12 years. Prerequisite: Consent of department.

PESS 534 Research in Creative Dance: Acquisition and Development in Children
★3 (second term, 0-3s-0). Study and research into the inter-relationship of creative dance and processes which children use to derive meaning from and bring meaning to this dance form. Prerequisite: PESS 533.

PESS 536 Planning and Conducting Movement Activities for Adults
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

PESS 540 Behavioral Analysis of the Athlete
★3 (either term, 0-3s-0). Prerequisite: PESS 303 and 403, or consent of Department.

PESS 543 Seminar in the Learning and Memory of Movement
★3 (second term, 0-3s-0). Selected topics of current interest in the field of psycomotor learning, motor memory and control.

ESS 550 The Administration of Amateur Sport: he Role of the Canadian State
3 (either term, 0-3s-0). This course will examine the creasingly large and visible role played by the state in anadian Sport.

ESS 551 Organizational Analysis of Sport
3 (either term, 0-3s-0). An examination of the role, tructure and processes of voluntary sport organiza-ons.

ESS 560 History of Sport and Physical Education 1800
3 (either term, 0-3s-0).

ESS 561 History of Sport and Physical Education Canada
3 (either term, 0-3s-0).

ESS 562 Rise of Modern Sport and Physical ducation
3 (either term, 0-3s-0).

ESS 570 Selected Topics in Popular Physical ulture
3 (either term, 0-3s-0).

ESS 571 Sport in Society
3 (either term, 0-3s-0). An examination of the role of ocial theory in understanding sport in society.

ESS 577 Sport and Ethics
3 (either term, 0-3s-0). An examination of ethical roblems in sport. Prerequisite: PESS 407 or 490 or onsent of department.

ESS 580 The Nature of Scientific Inquiry in hysical Education and Sport Studies
3 (first term, 0-3s-0). An introduction to the basic hilosophy and nature of scientific inquiry as it applies to ontemporary research.

ESS 581 Social Research Applications to Sport
3 (first term, 0-3s-0). An examination of both quantita-ve and qualitative research methodologies as they pply to the socio-cultural area.

ESS 582 Graduate Seminar: A Seminar in Current actors, Problems and Issues
3 (either term, 0-3s-0).

ESS 583 Seminar in Sport Sciences
3 (first term, 0-3s-0).

ESS 590 Research and Directed Studies 1
3 (first term, 0-3s-0).

ESS 591 Research and Directed Studies 2
3 (second term, 0-3s-0).

ESS 599 Directed Studies and Research
3 (0-1.5s-0). A half-course offered over the full session.

ESS 600 Advanced Seminar in Biomechanics
3 (either term, 0-3s-0).

ESS 610 Seminar in Exercise Physiology
3 (second term, 0-3s-0). Prerequisite: Consent of partment.

ESS 611 Issues in Exercise Physiology
3 (either term, 0-3s-0). Seminar course dealing with rrent developments and controversial issues in the ld of exercise physiology.

ESS 612 Physiological Factors Affecting rformance
3 (second term, 0-3s-0). Limited to PhD students in ercise Physiology or consent of department.

ESS 613 Energy Mobilization and Utilization with ercise
3 (second term, 0-3s-0). Cellular adaptations to acute d chronic exercise. Discussion of excitation-contrac-n coupling and metabolic adaptations during exercise. erequisite: Consent of the instructor.

ESS 620 Advanced Seminar in Growth and velopment
3 (either term, 0-3s-0). An advanced study of the search and theories of development of human motor rformance related to maturation and environmental nditions.

SS 640 Advanced Seminar: Theory in Motor arning and Memory
(first term, 0-3s-0).

SS 641 Advanced Seminar: Research and Design Motor Learning and Memory
(second term, 0-3s-0).

SS 660 Seminar in the History of Sport and ysical Education I
(either term, 0-3s-0).

SS 661 Seminar in History of Sport and Physical ucation II
(either term, 0-3s-0).

SS 690 Directed Studies and Research
(first term, 0-3s-0).

SS 691 Directed Studies and Research
(second term, 0-3s-0).

PESS 699 Directed Studies and Research
★3 (0-1.5s-0). A half-course taken over the full session.

204.65 Physical Therapy

Department of Physical Therapy
210 Corbett Hall
University of Alberta
Edmonton, Alberta T6G 2G4

204.65.1 General Information

The Department of Physical Therapy offers a program of graduate studies leading to the degree of MSc in physical therapy. The purpose of the program is to prepare physical therapists for leadership roles in academic, clinical and laboratory settings by preparing them to undertake research to establish the effectiveness of various approaches to treatments used by physical therapists; by so doing, to develop a strong scientific framework for the discipline of physical therapy.

The program has been designed in response to increased demands by academic and clinical institutions for therapists educated above the present baccalaureate level. It provides persons holding a baccalaureate degree in physical therapy with an opportunity for advanced study in their own field. The program at the University of Alberta offers advanced training in physical therapy specialty areas, such as biomechanics, ergonomics, neurology, orthopedics, sports physical therapy, rheumatology, cardiopulmonary physical therapy, and exercise therapy.

Entrance Requirements:

To meet the minimum entrance requirements of the Department of Physical Therapy, applicants must have a grade point average (GPA) of 6.5 in the last two years of their physical therapy baccalaureate program at the University of Alberta or an equivalent qualification from another institution. Where applicable (see §202.2.2) applicants must have a minimum TOEFL score of 580. Applicants to the program will be judged not only on their academic record, but also on their professional potential as indicated in letters of reference and other supportive material. Normally, some clinical experience prior to admission is strongly recommended by the Department. The deadline date for receipt of applications for the graduate program in Physical Therapy is February 1.

Financial Assistance:

Normally every student will be required to undertake one term of teaching and another term of research assistance. For this assistance, the student will receive remuneration as a Graduate Assistant at the prescribed university rate. Fellowships and scholarships may be obtained from a number of external sources (eg. NHRDP, MRC, AHFMR, Alberta Government, CPA, IODE, Arthritis Society and others). More detailed information on these and other awards can be obtained from the Student Awards Office.

204.65.2 The Degree of MSc

Program Requirements:

During the first year of the program students are expected to complete the core courses and select a pattern of courses in a particular area of interest that will enable them to bring their previous educational background in physical therapy and associated fields to an advanced level, to enable them later to engage in meaningful research in that area.

In order that students may design a program which fits their particular needs, only four courses — REHAB 500, PTHER 507, PTHER 570 and an approved statistics course - are compulsory; the remainder of the courses required for the degree are selected by the candidate, in consultation with the candidate's advisory committee.

During the second year of the program the student focuses on the development of a research project, conducting the experiments, and writing and defending the thesis.

Normally, the course requirements for the degree of Master of Science in Physical Therapy are 24 to 36 units of course weight in addition to the thesis. Students, in consultation with their adviser, will design a program of studies suitable to their particular needs and interests; course requirements will be based on students' previous training and anticipated needs in their area of interest. Courses from other departments may be accepted as part of a student's total program. Some undergraduate course work may be contained in a student's program, providing that a minimum of 24 units of course weight are also included. Credit for courses taken elsewhere may be granted transfer credit by the Dean, FGSR upon recommendation of the Department of Physical Therapy, provided that the courses have not been counted towards a previous degree or program.

Each student will be required to complete a thesis based on independent investigation. The thesis will carry a weighting equivalent to at least two full graduate courses.

No language other than English is required for the MSc.

Candidates are required to spend a minimum of two four-month terms of full-time attendance at the University of Alberta to meet the residence requirement.

Length of Program:

The program normally takes two years to complete; however, it is possible to complete the requirements for the MSc in less than two years, depending on the student's academic background.

204.65.3 Graduate Courses

THES 900 Thesis
THES 999 Thesis

REHAB 500 Research Seminar
★3 (either term, 0-3s-0). The examination, evaluation and preparation of the research report. Students will discuss critically various aspects including the selection of the problem, the review of the literature, the research hypothesis, the collection and analysis of the data, and the significance of the research.

PTHER 502 Peripheral Articular Anatomy
★3 (either term, 1-1s-2). Detailed functional and pathological anatomy of the peripheral joints of the body. Particular reference is given to the clinical relevance of the topics discussed.

PTHER 504 Vertebral Articular Anatomy
★3 (either term, 1-1s-2). Detailed functional and pathological anatomy of the vertebral joints of the body. Particular reference is given to the clinical relevance of the topics discussed.

PTHER 505 Motor Control Mechanisms in Health and Disease
★3 (either term, 2-1s-0). Introduction to the neural mechanisms of motor control and disturbances of these mechanisms in disease states. Emphasis will be placed on topics of clinical importance. Prerequisite: REHAB 353 (Neuroscience for Rehabilitation) or equivalent, and approval of the instructor and the student's adviser.

PTHER 506 Electromyographic Kinesiology
★3 (either term, 1-0-2). Seminar and laboratory sessions on advances in electromyography applied to physical therapy and allied areas.

PTHER 507 Instrumentation in Physical Therapy
★3 (either term, 2-0-2). A course on electronic fundamentals applied to measuring instruments and their basic components as used in physical therapy research.

PTHER 509 Tissue Biomechanics
★3 (either term, 1-2s-0). A consideration of the mechanical properties of biological tissue in normal and selected pathological conditions.

PTHER 510 Rehabilitation Ergonomics
★3 (either term, 1-2s-0). The application of ergonomic principles in rehabilitation.

PTHER 514 Readings in Rheumatology for Physical Therapists
★3 (either term, 0-3s-0). Reading course on selected issues in rheumatology for the graduate physical therapist.

PTHER 522 Advanced Electrophysical Agents
★3 (either term, 0-3S-0). A seminar course on the theory, research basis and practice of the use of electrophysical treatment modalities in physical therapy. Prerequisite: Consent of department.

PTHER 530 Research and Directed Studies
★3 (either term, 3-0-0). Work on a special project under the supervision of a faculty member. Prior approval of the instructor and the student's advisor required.

PTHER 531 Research and Directed Studies
★3 (either term, 3-0-0). Work on a special project under the supervision of a faculty member. Prior approval of the instructor and the student's advisor required.

PTHER 532 Research and Directed Studies
★3 (1.5-0-0). Work on a special project under the supervision of a faculty member. Prior approval of the instructor and the student's advisor required.

PTHER 533 Research and Directed Studies
★6 (3-0-0). Work on a special project under the supervision of a faculty member. Prior approval of the instructor and the student's advisor required.

PTHER 540 Practicum
★0 (0). A practicum in the student's area of concentration and interest to be taken by the student if his/her committee feels the student needs, or the student desires, further practical experience. This course may involve experience off campus in any geographical area where the student may gain the necessary experience.

PTHER 550 Physiological Basis of Neuromuscular Disorders
★3 (either term, 2-1s-0). Cellular basis of clinically relevant perturbations to the neuromuscular system. Particular reference will be made to the efficacy of rehabilitative interventions.

PTHER 555 Assessment and Treatment of Pain
★3 (either term, 0-3s-0). A seminar course on the physical, physiological and psychological principles of the assessment and treatment of acute and chronic pain.

PTHER 561 Pathokinesiology of Peripheral Joints
★3 (either term, 3-0-2). The application of kinesiological analysis to the treatment of pathological conditions affecting the peripheral joints.

PTHER 562 Pathokinesiology of the Spinal Joints
★3 (either term, 3-0-2). The principles, theory and application of advanced techniques of mobilization on selected spinal joint syndromes.

PTHER 564 Recent Advances in Orthopaedics
★3 (either term, 0-3s-0). A seminar of recent advances in medical and surgical techniques in rheumatology and orthopaedics.

PTHER 568 Advanced Sports Therapy
★3 (either term, 0-3s-0). Seminar on advances in sports therapy and other related topics.

PTHER 570 Measurement and Evaluation in Physical Therapy
★3 (either term, 2-0-3). The principles involved in measurement and evaluation and their application in the practice of physical therapy.

PTHER 571 Advanced Geriatric Rehabilitation
★3 (either term, 0-3s-0). Seminar on methods of assessment of physical programs of the elderly and the management of programs for care in various settings for the long term support of elderly patients.

PTHER 572 Infant Motor Development
★3 (either term, 0-3s-0). A seminar course on the neuromotor development of the human fetus, neonate and infant.

PTHER 573 Prosthetics and the Amputee
★3 (either term, 2-0-1). Management and rehabilitation problems arising from the design and use of prosthetics.

PTHER 575 Advanced Therapeutic Exercises
★3 (either term, 2-0-1). Physiological and therapeutic principles in the evaluation and comparative analyses of various approaches to exercise.

PTHER 580 Curriculum Analysis in Physical Therapy
★3 (either term, 0-3s-0). Analysis of curriculum and its relevance to the process of physical therapy undergraduate, graduate and continuing education.

PTHER 581 Information Transfer in Physical Therapy Education
★3 (either term, 1-0-2). Application of the principles of information transfer to physical therapy undergraduate, graduate and continuing education.

PTHER 585 Cardiopulmonary Rehabilitation
★3 (either term, 2-0-2). The general principles of cardiopulmonary rehabilitation as applied to patients with selected pathological conditions.

204.66 Physics

Department of Physics
412A Physics Building
University of Alberta
Edmonton, Alberta T6G 2J1

204.66.1 General Information

Programs leading to the degrees of Master of Science and Doctor of Philosophy are open to suitable graduates in physics, engineering physics, geophysics, or equivalent programs.

The Department's principal fields of research are:

Astrophysics: Astronomy, laboratory astrophysics, precision optical spectroscopy.

Geophysics: Geomagnetism, paleomagnetism, space physics, stable and radioactive isotope studies, theoretical and experimental seismology. For geophysics courses see §204.35.

Subatomic Physics: Intermediate energy nuclear and particle physics. The TRIUMF facility, a 500 MeV negative ion cyclotron on the University of British Columbia campus, and the Saskatoon Accelerator Laboratory are the main sites for experimental work. Other research projects involve collaboration with physicists at laboratories in Europe and the USA.

Low Temperature and Solid State Physics: Superconductors, semiconductors, solid helium, NMR, acoustic attenuation, electron microscopy, transport properties in metals.

Theoretical Physics: Condensed matter physics, subatomic physics, field theory, general relativity, cosmology, and mathematical physics.

Other Areas: Radiation and medical physics, biophysics.

Individual programs will be arranged in consultation with the Associate Chair of the Department of Physics and members of the Department. Information may be obtained by writing to the Associate Chair of the Department of Physics.

Entrance Requirements:

The Department's admission requirements are an undergraduate degree in physics, engineering physics, geophysics or an equivalent program, normally with an average of 7.0 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution. Where applicable (refer to §202.2.2), candidates must pass the TOEFL test with a score of 550 or better.

Financial Assistance:

A number of graduate assistantships are available; these range from $12,900 to $17,000 per annum depending upon the degree program and year of study. Applicants are automatically considered for this assistance when they are accepted in the graduate program. In addition to the graduate assistantships, a certain number of research supplements to the value of approximately $4,000 are available during the summer.

204.66.2 The Degree of MSc

Program Requirements:

For an MSc program in experimental physics a minimum of 12 units of course weight is generally required of students with the equivalent of an Honors BSc degree from the University of Alberta. For students in a theoretical program the minimum course requirement is 18 units of course weight, including PHYS 680 and 682 or 684. A small research project, the results of which are to be presented in a thesis and an oral examination, are also required.

A supervisory committee of three faculty members is appointed for each graduate student. In May of the first year of the program the committee makes a formal recommendation on the candidate's potential for graduate work. At this time students may in certain cases be permitted to transfer directly to a PhD program if their progress warrants it.

There is no language requirement for the degree of MSc.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required will vary according to the previous training of the candidate and the nature of the research undertaken; however, an average of two years is normally required to complete the MSc program.

204.66.3 The Degree of PhD

Program Requirements:

Students in an experimental program are required to take a minimum of 30 units of course weight, including PHYS 680, after the equivalent of the Honors BSc degree from the University of Alberta. These include the courses required for the MSc program. An exception is made in the case of the geophysics program where PHYS 571 may be substituted for PHYS 680. For the theoretical program there is a minimum of 36 units of course weight after the Honors BSc level including PHYS 680, 683, 684 and 685. All students in the PhD program are advised to take at least six units of course weight in fields of study different from their own research areas. When the course requirements are successfully completed and the PhD student's research is well-advanced, each PhD student must pass an oral candidacy examination. The student's research is presented orally and in written (thesis) form to an examining committee. No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The minimum time for completion of a PhD degree is three academic years of study and research after the Honors BSc degree or two academic years after the equivalent of the MSc degree at the University of Alberta.

204.66.4 Undergraduate Courses

The following undergraduate Geophisics and Physics courses may be taken for graduate credit.

Geophysics

GEOPH 421 Seismology and Physical Structure of the Earth
★3 (second term, 3-0-0). Seismology; Infinitesimal strain theory; elastic stress and moduli of elasticity; plane waves in isotropic layered media; imperfectly elastic media earthquake mechanisms. Physical structure of the earth seismometers. Prerequisite: MATH 300 or 437.

GEOPH 424 Electromagnetic and Potential Methods of Exploration
★3 (second term, 3-0-0). Theory and application o Maxwell's equations. Potential theory as applied t gravity, magnetic and electrical studies. Interpretation o field data. Direct and indirect methods of inversion t obtain model structures. Prerequisite: GEOPH 325 o consent of department, and MATH 300 or 437. Corequisite GEOPH 428.

GEOPH 426 Time Series in Applied Seismology
★3 (first term, 3-0-0). Application of time series analyse to seismic data processing. Fast Fourier transforms; Z transformation, spectral analyses, band pass and veloc ity filtering, deconvolution, auto and cross correlation analog to digital conversion, wave propagation in layered media. Prerequisite: GEOPH 326 or equivalent. Corequisite GEOPH 428.

GEOPH 428 Application of Methods of Exploration Geophysics
★6 (0-0-6). A ten day field camp held before the beginning of the fall term provides data for interpretation during the fall and winter terms. Problems associate with the analysis of real data are discussed in a weekly seminar. Prerequisite: MATH 300. Note: Restricted t geophysics honors and specialization students.

GEOPH 429 Upper Atmosphere and Space Physics
★3 (second term, 3-0-0). Generation of the solar wind; the interplanetary plasma and field environment; the solar terrestrial interaction; magnetospheric substorms; the au rora borealis; magnetosphere-ionosphere interactions; effect of magnetospheric storms on man-made systems; use o natural electromagnetic fields for geophysical exploration Prerequisite or corequisite: PHYS 382.

Physics

PHYS 411 Statistical Physics I
★3 (first term, 3-0-0). Kinetic theory of gases, ideal gas fundamental principles of statistical mechanics, Maxwell Boltzmann distribution, Gibbs paradox, microcanonica ensemble, canonical ensemble, quantum statistics. Pre requisite: PHYS 211, 372; MATH 300 or 437.

PHYS 413 Statistical Physics II
★3 (second term, 3-0-0). Grand canonical ensemble Bose condensation, Fermi gas, Debye theory of solids black-body radiation, ortho- and para-hydrogen, ap proximation methods. Prerequisite: PHYS 411.

PHYS 415 Introduction to Condensed Matter Physics I
★3 (first term, 3-0-0). Lattice structure and binding Lattice vibrations. Electrons in solids, band structure o metals, Fermi surface. Semi-conductors and junctions Paramagnetism and diamagnetism. Introduction to lattic defects. Prerequisite: PHYS 372. Corequisite: PHYS 411

PHYS 417 Introduction to Condensed Matter Physics II
★3 (second term, 3-0-0). Lattice imperfections, disloca tions, crystal growth. First and second order phas transitions. Ferro- and antiferro-magnetism. Productio of low temperatures. Super-conductivity and superfluidity Dielectric and optical properties of solids. Ferro-electric ity. Prerequisite: PHYS 411, 415.

PHYS 445 Theory of Classical Fields
★3 (second term, 3-0-0). Lagrangian and Hamiltonia formulations for continuous systems and fields; fiel equations; Schrodinger field; Scalar field, conservatio laws. Prerequisite: PHYS 382 and MA PH 444.

PHYS 462 Atomic and Laser Spectroscopy
★3 (either term, 3-0-0). Radiative transitions; hydrogen fine-structure; two-electron systems; external fields; widt and shape of spectral lines; radiative transfer; popula tion inversion mechanisms; applications of lasers i atomic physics. Prerequisite: PHYS 472.

PHYS 463 Physics of Stellar Atmospheres
★3 (either term, 3-0-0). Introduction to stellar spectra theory of excitation and ionization; emission and absorp tion of radiation, continuous spectra; model stellar at mospheres; the Fraunhofer spectrum. Prerequisite: PHY 271 and MATH 300 or MATH 437.

PHYS 465 Physics of Stellar Interiors
★3 (either term, 3-0-0). Stellar interiors and nuclea transformation; model stars; variable stars; stellar evolu tion. Prerequisite: PHYS 271, and MATH 300 or 437.

PHYS 472 Quantum Mechanics B
★3 (first term, 3-0-0). Review of the physical basis o quantum mechanics; matrix formulation; angula momemtum; perturbation theory; collision theory; th many-particle Schrodinger equation; identical particles spin and statistics; atomic and molecular systems. Pre requisite: PHYS 372.

PHYS 473 Nuclear and Particle Physics
★3 (first term, 3-0-0). Electron scattering and th

structure of nuclei and particles, symmetries and conservation laws, isospin in nuclear and particle physics; electromagnetic, weak and hadronic interactions; models of nuclear structure; nuclear reactions; quarks and hadron spectroscopy. Prerequisite: PHYS 372.

PHYS 475 Medical Radiation Physics - Fundamentals
★3 (either term, 3-0-0). Basic concepts of dosimetry; microscopic energy distribution in irradiated matter; production of x-rays; charged particle interactions; nuclear magnetic resonance; ionization cavity chambers. Prerequisite: PHYS 372.

PHYS 477 Medical Radiation Physics - Applications
★3 (either term, 3-0-0). The physics of diagnostic imaging with x-rays, isotopes, nuclear magnetic resonance. The physics of radiation therapy-applied dosimetry. Prerequisite: PHYS 475.

PHYS 491 Advanced Laboratory
★3 (first term, 0-0-6). Open-ended experiments in atomic, nuclear and solid state physics. Prerequisite: PHYS 382, 395.

PHYS 493 Instrumentation B
★3 (second term, 3-0-0). Topics in instrument design in several fields of experimental physics. Prerequisite: PHYS 382 and 395.

PHYS 499 Special Projects
★3 (second term, 0-0-6). Experimental or reading project under the direction of a staff member. This course is intended for both Honors Physics students and Honors Mathematical Physics students. Prerequisite: A 300-level Physics course and consent of department.

204.66.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis

Geophysics

GEOPH 620 Geodynamics
★3 (either term, 3-0-0). To include emphasis on: I: paleomagnetism; II: rheology; III: tectonic theories; IV: heat flow; or V: elastodynamics.

GEOPH 621 Geomagnetism I or II
★3 (either term, 3-0-0).

GEOPH 623 Time Sequence Analysis
★3 (first term, 3-0-0).

GEOPH 624 Theoretical Seismology I or II
★3 (second term, 3-0-0).

GEOPH 625 The Physics of In-situ Heavy Oil Recovery
★3 (either term, 3-0-0).

GEOPH 626 I: Isotopic Studies of Stable and Radiogenic Elements; II: Mass Spectroscopy — Instumentation and Techniques
★3 (either term, 3-0-0).

GEOPH 628 Topics in Solar-terrestrial Relationships I or II
★3 (either term, 3-0-0).

GEOPH 631 Advanced Topics in Plasma and Space Physics I or II
★3 (either term, 3-0-0).

Physics

PHYS 601 Seminar in Advanced Topics
★2 (0-1s-0). Weekly seminars are held in 1 of the major areas of research in the Department. Students must attend all seminars.

PHYS 602 Seminar in Special Topics
★2 (0-1s-0).

PHYS 611 Semiconductors
★3 (either term, 3-0-0).

PHYS 612 Applied Solid State Physics
★3 (either term, 3-0-0).

PHYS 613 Superconductivity
★3 (either term, 3-0-0).

PHYS 615 Lattice Defects in Solids
★3 (either term, 3-0-0).

PHYS 616 Special Topics in Condensed State Physics I or II
★3 (either term, 3-0-0).

PHYS 617 Transport Properties in Metals
★3 (either term, 3-0-0).

PHYS 619 Superfluids
★3 (either term, 3-0-0).

PHYS 660 Atomic Theory and Spectroscopy
★3 (either term, 3-0-0).

PHYS 663 Topics in Astronomy and Astrophysics I
★3 (either term, 3-0-0).

PHYS 664 Topics in Astronomy and Astrophysics II
★3 (either term, 3-0-0).

PHYS 665 Stellar Systems
★3 (either term, 3-0-0).

PHYS 672 Advanced Nuclear Physics I
★3 (either term, 3-0-0).

PHYS 673 Advanced Nuclear Physics II
★3 (either term, 3-0-0).

PHYS 674 Experimental Topics in Nuclear Physics I
★3 (either term, 3-0-0).

PHYS 675 Experimental Topics in Nuclear Physics II
★3 (either term, 3-0-0).

PHYS 676 Nuclear Structure I
★3 (either term, 3-0-0).

PHYS 677 Nuclear Structure II
★3 (either term, 3-0-0).

PHYS 680 Advanced Quantum Mechanics
★6 (3-0-0).

PHYS 682 Advanced Electromagnetic Theory I
★3 (first term, 3-0-0).

PHYS 683 Statistical Mechanics
★3 (first term, 3-0-0).

PHYS 684 Advanced Electromagnetic Theory II
★3 (second term, 3-0-0).

PHYS 685 Quantum Field Theory I or II
★3 (second term, 3-0-0).

PHYS 686 Critical Phenomena
★3 (second term, 3-0-0).

PHYS 688 Solid State Theory
★6 (3-0-0).

PHYS 689 Non-Equilibrium Statistical Mechanics
★3 (either term, 3-0-0).

PHYS 690 Fluid Mechanics
★3 (either term, 3-0-0).

PHYS 691 Elementary Particle Physics I or II
★3 (either term, 3-0-0). I — phenomenology; II — summetries and weak interactions.

PHYS 692 Group Theory and Applications
★3 (either term, 3-0-0).

PHYS 699 Selected Topics in Theoretical Physics
★3 (either term, 3-0-0). I — Scattering theory; II — Green's function; advanced solid state theory; III — mechanics of fluids and other continua.

204.67 Physiology

Department of Physiology
7-55 Medical Sciences Building
University of Alberta
Edmonton, Alberta T6G 2H7

204.67.1 General Information

Facilities are available for graduate training leading to the Master of Science and Doctor of Philosophy degrees. The Department is well equipped for most fields of physiological research, including various areas of endocrinology, cellular physiology, neurophysiology, and biophysics.

Information and requests for application forms for admission may be obtained from the Department. Students may also write to the Chair of the Department in regard to their special interests and related matters.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of at least 7.0 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2).

Financial Assistance:

Financial assistance in the form of graduate assistantships is usually available for graduate students.

204.67.2 The Degree of MSc

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student; however, the program normally consists of four single-term courses and a thesis.

There is no language requirement for the MSc.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MSc will vary with the individual candidate; however, a minimum of 12 months is normally required.

204.67.3 The Degree of PhD

Program Requirements:

The PhD program normally consists of 12 units of course weight and the preparation and defence of a thesis on an approved topic.

No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of three years is normally required.

204.67.4 Graduate Courses

THES 900 Thesis
THES 999 Thesis

PHYSL 401 Molecular and Cellular Physiology
★3 (first term, 3-0-0). Prerequisite: PHYSL 310 and consent of the instructor.

PHYSL 404 Cardiovascular Physiology
★3 (second term, 3-0-0). Prerequisite: PHYSL 310 or equivalent.

PHYSL 410 Modern Techniques in Physiology
★3 (second term, 0-0-6). Prerequisite: PHYSL 310 and 401, or consent of department.

NEURO 471 Neuroscience I: Cells, Membranes and Molecules
★3 (first term, 3-0-0). Prerequisite: PHYSL 310 or PSYCO 275 or ZOOL 241 or ZOOL 242.

NEURO 472 Neuroscience II: Systems
★3 (second term, 3-0-0). Prerequisite: PHYSL 310 or PSYCO 275 or ZOOL 241 or equivalent.

PHYSL 501 Topics in Cardiovascular Physiology
★3 (second term, 3-0-0).

PHYSL 502 Problems in Current Research
★3 (either term, 0-0-6).

PHYSL 506 Tutorial and Seminar Course
★3 (either term, 3-0-0).

INT D 543 Current Problems in Neuroendocrinology
★3 (second term, 3-0-3). Prerequisite: ZOOL 343 or PHYSL 401. Credit for this course may be obtained more than once. Offered alternate years.

INT D 544 Physiology of Reproduction
★3 (second term, 3-0-0).

INT D 545 Physiology of Transport Systems
★3 (second term, 3-1s-0). Prerequisite: PHYSL 310 or 352 or ZOOL 241 or 242. [Physiology]

204.67.5 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department for further information.

PHYSL 503 Biophysics of Nerve and Muscle
★3 (second term, 3-0-0).

PHYSL 505 Topics in Neurophysiology
★3 (first term, 3-0-0).

204.68 Plant Science

Department of Plant Science
4-10 Agriculture-Forestry Centre
University of Alberta
Edmonton, Alberta T6G 2P5

204.68.1 General Information

The Department of Plant Science offers programs leading to the degrees of Master of Agriculture, Master of Science, and Doctor of Philosophy.

The Department is equipped with laboratories, greenhouses, growth cabinets and field facilities for research in horticulture, plant pathology, plant biotechnology, plant physiology and biochemistry, weed science, range science, forage physiology, plant breeding and crop production. Specific research interests of the Department include breeding, agronomy and quality of forage, cereal and oilseed crops, crop physiology, weed control, herbicide physiology, grassland improvement, the physiology and production of greenhouse and other horticultural crops, host-pathogen relationships and protection of plants against

disease, seed dormancy, the biochemistry of energy production and utilization in plants, and the roles of ethylene and carbon dioxide in plant growth.

New programs in plant biotechnology applied to these research areas include genetic engineering, plant tissue culture and plant regeneration. A Chair in Plant Molecular Biology and Biotechnology has been established to serve as a focus for interdisciplinary research in this subject on campus.

Course requirements in graduate programs are based on the student's previous training and anticipated needs in the student's field of specialization. Normally, all advanced courses are acceptable as part of a graduate program. All candidates must submit and defend a thesis based on research, for the MSc and PhD. A directed research project and a seminar presentation are requirements of the MAg.

Inquiries should be addressed to the Chair, Graduate Studies Committee.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of at least 7.0 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2). A minimum GPA of 6.5 is acceptable for admission to the MAg only.

Financial Assistance:

Financial assistance from research grants is available for a number of qualified candidates.

204.68.2 The Degree of MSc

Master's degrees are offered in plant science, horticulture, plant breeding, range science, weed science, plant pathology, forest pathology, plant biochemistry, plant molecular biology and biotechnology, and in agronomy (jointly with the Department of Soil Science).

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student; however, the MSc program normally consists of 12 to 18 units of course weight and a thesis.

There is no language requirement for the degree.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MSc will vary with the individual candidate; however, a minimum of 18 months is normally required.

204.68.3 The Degree of MAg

Program Requirements:

The MAg is a course-based program consisting of 30 units of course weight in graduate-level courses, including a research project course (three units of course weight) and a seminar course, PL SC 600 (one unit of course weight). Candidates will be required to give a seminar on their research project topic which will be evaluated, along with the project, by the student's three-member supervisory committee. The evaluation will be on a pass/fail basis. This capping exercise, along with the PL SC 600 requirement, is intended to evaluate the student's ability to review, synthesize, and present scientific research and literature.

The minimum period of residence is one, four-month term of residence in full-time attendance at the University of Alberta.

Applicants are normally expected to have completed three years of satisfactory professional experience.

Length of Program:

The time required to complete the MAg program will vary; however, the time limit for program completion is four years from the date of initial registration.

204.68.4 The Degree of PhD

PhD degrees are offered in plant breeding, range science, weed science, plant pathology, forest pathology, plant biochemistry, plant molecular biology and biotechnology, and agronomy (jointly with the Department of Soil Science).

Program Requirements:

The PhD program normally consists of 12 to 18 units of course weight and the preparation and defence of a thesis on an approved topic.

There is no language requirement for the degree.

The residence requirement is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The length of the PhD program will depend to some extent on the previous qualifications of the candidate; however, normally three years are required.

204.68.4 Graduate Courses

THES 900 Thesis
THES 999 Thesis
PL SC 900 ★3 Directed Research Project

PL SC 500 Statistics for Biological Research
★3 (first term, 3-0-3).

PL SC 501 Reading Project in Plant Science
★3 (first term, 0-3s-0).

PL SC 502 Reading Project in Plant Science
★3 (second term, 0-3s-0).

PL SC 503 Topics in Plant Breeding
★3 (second term, 3-0-0). Prerequisite: PL SC 465. Offered in alternate years.

PL SC 505 Research Project in Plant Science
★3 (first term, 0-3s-0).

PL SC 506 Research Project in Plant Science
★3 (second term, 0-3s-0).

PL SC 509 Selected Topics in Horticulture
★3 (either term, 0-3s-0).

PL SC 510 Plant Virology
★3 (first term, 3-0-3). Prerequisite: Consent of instructor.

PL SC 520 Disease Diagnostics
★3 (Intersession 0-0-6).

INT D 551 Advanced Plant Biochemistry
★3 (second term, 3-0-0). Prerequisite: Consent of instructor; BIOCH 301 or PL SC 331 and 432. (Offered jointly by the Departments of Botany and Plant Science.) [Plant Science]

PL SC 580 Epidemiology of Plant Diseases
★3 (second term, 1-3s-0). Prerequisite: Consent of instructor.

PL SC 600 Plant Science Seminar
★1 (0-1s-0).

PL SC 601 Plant Molecular Genetics
★3 (Intersession, 0-10-40). A laboratory research approach to the study of gene transfer and insertional mutagenesis in plant cells. Gene regulation in transgenic plants. Emphasis on interdisciplinary aspects and new techniques. It is offered over a two-week period, with participants from different discipline areas working in teams. Prerequisite: GEN 300 and GEN 304, and consent of instructor.

PL SC 670 Weed Science
★3 (first term, 3-0-0).

204.69 Political Science

Department of Political Science
10-16 Tory Building
University of Alberta
Edmonton, Alberta T6G 2H4

204.69.1 General Information

The Department of Political Science offers programs leading to the Master of Arts and Doctor of Philosophy degrees.

The following fields of specialization are offered: Canadian politics, political philosophy, international relations, comparative politics, urban politics, political behavior and psychology.

Students contemplating graduate work in political science should direct their inquiries to the Graduate Chair, Department of Political Science.

Entrance Requirements:

The Department's minimum admission requirements are an under graduate degree with an average of 7.0 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2).

Financial Assistance:

A number of graduate assistantships are available for qualified students.

204.69.2 The Degree of MA

Program Requirements:

Two MA routes are available: a) a thesis-based MA designed to prepare the student for entrance into a PhD program; b) a course-based MA for both full- and part-time students.

For the thesis-based MA required courses depend on the area of specialization and the undergraduate background of the student; however, the program normally consists of 18 units of course weight and a thesis. For the course-based MA, 27 units of course weight including a project are required. No fewer than 12 units of course weight will be in a single field. The Project, POL S 900 equivalent to three units of course weight, must be taken for the preparation of a research paper. Students in the part-time program must take one of the following courses: POL S 510, 521, 525, 550, 560, 593. Upon completion of the requirement of 27 units of course weight, the student must pass an oral examination covering course materials and defend the paper submitted in POL S 900.

There is no language requirement for the MA degree.

The minimum period of residence for full-time programs is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MA will vary with the individual candidate; however, a minimum of 12 months of study and research is normally required. A part-time MA student must maintain continuous registration and complete the program in four years.

204.69.3 The Degree of PhD

Program Requirements:

A PhD student with an MA or equivalent in political science is normally required to complete a minimum of 30 units of course weight (plus dissertation hours) primarily at the 500- and 600-levels. Some courses may be waived for a graduate student with an exceptional background in Political Science at the graduate level.

All students in the PhD program are required to show competence in the area of the logic of political inquiry. Students not competent in the logic of political inquiry are required to enroll in POL S 508 and 509, or their equivalent. Students are also required to obtain credit in POL S 503 or another course equivalent to three units of course weight that provides a research skill. Courses other than POL S 503, 508, and 509, must be approved by the Graduate Chair in consultation with the student's supervisor.

During the summer between the PhD student's first and second year the student is expected to complete a dissertation proposal acceptable to the student's advisor.

It is expected that PhD students will complete coursework in four terms. In the fourth term, two of the student's courses are reading courses primarily for the preparation of the candidacy exam.

Before taking the candidacy examination each doctoral student must demonstrate proficiency in a language other than English. The student's advisor or committee will determine the language most appropriate to the student's program and research interest. Students taking Canadian politics as a field will be required to take French. In addition, the student's adviser or committee may determine that a special skill, such as statistics, is essential to the student's program and may require that the student demonstrate proficiency in that skill.

It is expected that PhD students will normally take the candidacy exam in the month following the completion of the second year of their program. Students must take and pass written comprehensive exams in two of the six PhD fields of specialization. They are: Canadian Politics; Political Philosophy; International Relations; Comparative Politics; Urban Politics; Political Behaviour and Psychology. The oral exam is held within one week of the written comprehensive exams, supervised by a committee formed according to FGSR regulations. Within one week following the successful completion of the oral exam, the student's dissertation proposal will be examined by a committee formed in accordance with FGSR regulations.

All candidates for the PhD must prepare an acceptable dissertation embodying the results of their research. Candidates will be examined orally on their dissertation results by committees formed according to FGSR regulations.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of three years are normally required.

204.69.4 Graduate Courses

The consent of department is required for all 500 and 600 level courses.

THES 900 Thesis
THES 999 Thesis
POL S 900 ★3 Directed Research Project

POL S 500 Conference Course
★6 (0-3s-0).

POL S 501 Comparative Institutions and Processes
★3 (either term, 0-3s-0).

POL S 502 Logic of Political Inquiry
★3 (either term, 0-3s-0).

POL S 503 Principles of Research Design and Analysis
★3 (either term, 0-3s-0).

POL S 506 Empirical Political Theory
★3 (either term, 3-0-0).

POL S 508 Scientific Study of Politics I
★3 (either term, 3-0-0). Prerequisite: POL S 415.

POL S 509 Scientific Study of Politics II
★3 (either term, 3-0-0). Prerequisite: POL S 416 and 508.

POL S 510 Advanced Study of Political Thought
★6 (3-0-0).

POL S 511 Topics in Normative Analysis
★3 (either term, 3-0-0).

POL S 512 Modern Social Theory
★3 (either term, 3-0-0).

POL S 515 Statistics for Political Scientists
★4 (either term, 2-0-2).

POL S 516 Problems in Marxist Political Theory
★3 (either term, 3-0-0).

POL S 521 Canadian Government and Politics
★3 (either term, 3-0-0).

POL S 522 Canadian Federalism
★3 (either term, 3-0-0).

POL S 523 Canadian Political Parties
★3 (either term, 0-3s-0).

POL S 524 Canadian Political Culture
★3 (either term, 3-0-0).

POL S 525 Urban Analysis
★3 (either term, 3-0-0).

POL S 526 Selected Topics in Urban Politics
★3 (either term, 3-0-0).

POL S 527 Canadian Public Policy
★3 (either term, 3-0-0).

POL S 528 The Politics of Public Administration
★3 (either term, 3-0-0). Prerequisite: POL S 425, or consent of department or the Associate Dean of the MPM program.

POL S 540 Selected Topics in Public Policy
★3 (either term, 3-0-0). Prerequisite: POL S 300 or 320 or consent of Department

HIST D 540 Seminar on Comparative, Legal, Constitutional, and Federal Studies
★6 (0-3s-0). Prerequisite: Consent of department. (Offered jointly by the Departments of History and Political Science.) [Political Science].

POL S 545 Topics in Communism
★3 (either term, 0-3s-0).

HIST D 546 East European and Soviet Studies
★6 (3-0-0).

POL S 546 Seminar in Soviet Government
★3 (either term, 0-3s-0).

POL S 550 Comparative Politics: Theory and Analysis
★3 (either term, 0-3s-0).

POL S 551 Comparative Politics: Selected Topics
★3 (either term, 3-0-0).

POL S 553 Comparative Political Activism
★3 (either term, 3-0-0).

POL S 554 Comparative Party and Group Politics
★3 (either term, 3-0-0).

POL S 555 Territorial Organization in Nation States
★3 (either term, 0-3s-0).

POL S 560 International Politics I
★3 (either term, 3-0-0).

POL S 561 International Politics II
★3 (either term, 0-3s-0).

POL S 562 Canadian Foreign Policy
★3 (either term, 3-0-0).

POL S 564 Conflict Resolution and Strategic Studies
★3 (either term, 3-0-0).

POL S 565 Foreign Policy Analysis
★3 (either term, 3-0-0).

POL S 570 Political Development: Theory
★3 (either term, 3-0-0).

POL S 571 Political Development: Selected Topics
★3 (either term, 3-0-0).

POL S 578 Asian Systems
★3 (either term, 3-0-0).

POL S 580 Western European Systems
★3 (either term, 0-3s-0).

POL S 581 Anglo-American Systems
★3 (either term, 3-0-0).

POL S 592 Political Psychology
★3 (either term, 3-0-0).

POL S 593 Political Behavior
★3 (either term, 3-0-0).

POL S 594 The Comparative Study of Political Mass Movement
★3 (either term, 0-3s-0).

POL S 599 Research Seminar for Non-Thesis MA Candidates
★6 (0-3s-0).

POL S 607 Comparative Federal Systems
★3 (either term, 3-0-0).

POL S 608 Advanced Study in Comparative Politics
★3 (either term, 3-0-0).

POL S 609 Readings in Comparative Politics
★3 (either term, 0-3s-0).

POL S 611 Seminar in Contemporary Political Philosophy
★3 (either term, 0-3s-0).

POL S 612 Topics in Classical Political Philosophy
★3 (either term, 3-0-0).

POL S 614 Topics in the Logic of Political Inquiry
★3 (either term, 3-0-0). Prerequisite: POL S 502.

POL S 619 Readings in Political Philosophy
★3 (either term, 3-0-0).

POL S 620 Topics in Canadian Government and Politics
★3 (either term, 3-0-0).

POL S 625 Readings in Urban Analysis
★3 (either term, 0-3s-0).

POL S 626 Administrative Practices
★3 (either term, 3-0-0).

POL S 629 Readings in Canadian Government and Politics
★3 (either term, 0-3s-0).

POL S 660 International Politics
★3 (either term, 3-0-0).

POL S 663 Problems of International Organization
★3 (either term, 3-0-0).

POL S 668 Readings in International Studies
★3 (either term, 3-0-0).

POL S 690 Research Practicum in Political Behavior and Psychology
★3 (either term, 3-0-0). Corequisite: POL S 592 or 593.

POL S 695 Advanced Topics in Political Behavior and Psychology
★3 (either term, 3-0-0). Corequisite: POL S 592 or 593.

POL S 699 Readings in Political Behaviour and Psychology
★3 (either term, 3-0-0).

204.70 Psychiatry

Department of Psychiatry
1E1.01 Mackenzie Health Sciences Centre
University of Alberta
Edmonton, Alberta T6G 2B7

204.70.1 General Information

The Department of Psychiatry offers programs leading to the degrees of MSc and PhD. The PhD program is offered as part of the PhD in Medical Sciences interdisciplinary program (see §204.49).

For further information contact the Graduate Coordinator in the Department of Psychiatry.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 7.0 in the last two years of undergraduate (or graduate) work at the University of Alberta or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2).

Financial Assistance

Financial assistance may be available from the Medical Research Council of Canada, the Alberta Heritage Foundation for Medical Research, the Alberta Mental Health Research Fund, grants to faculty members, and from other sources.

204.70.2 The Degree of MSc

Program Requirements

Requirements include the preparation and defense of a thesis based on research conducted by the candidate.

All candidates must include some coursework, as specified by their Supervisory Committee. Normally six to nine units of course weight are required.

There is no second language requirement for the MSc.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of 12 months is normally required.

204.71 Psychology

Department of Psychology
P220 Biological Sciences Building
University of Alberta
Edmonton, Alberta T6G 2E9

204.71.1 General Information

The Department of Psychology offers graduate work leading to the degrees of MA, MSc, and PhD.

Research facilities consist of numerous laboratories:

(1) for work with animals: surgeries, physiological recording rooms, behavioral testing rooms, various kinds of programming equipment, and a histological laboratory;

(2) for work with humans: rooms for interviews and personality testing; observation rooms and experimental areas for social and developmental psychology; laboratories for sensory and perceptual studies in vision, audition, tactile, and chemical senses; and laboratories for the study of cognitive processes.

Entrance Requirements:

The Department's minimum admission requirements are a four-year undergraduate degree with a 7.0 or better grade point average in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution (see §202.2.1) and a TOEFL score of 550 where applicable (see §202.2.2).

The Department also requires that applicants submit a statement of their research interests, three letters of recommendation, and the results of the Graduate Records Examination (GRE), including the test in Psychology. No minimum cut-off is used to evaluate GRE scores, but successful applicants generally score above the 70th percentile in most categories.

Financial Assistance:

Graduate assistantships for research and teaching are normally available for students who maintain satisfactory performance in their assistantship duties and make satisfactory progress toward a degree. In addition, a certain number of assistantships are available during the summer.

204.71.2 The Degrees of MA and MSc

Program Requirements:

Requirements for the master's degree include demonstration of competence in PSYCO 530 and in 12 units of course weight selected from the following: PSYCO 541, Advanced Social Psychology; PSYCO 561, Advanced Psychology of Conditioning and Learning; PSYCO 567, Advanced Psychology of Development; PSYCO 560, Advanced Memory and Cognition; PSYCO 562, Advanced Psychology of Perception; PSYCO 575, Advanced Physiological Psychology; PSYCO 587, Advanced Abnormal Psychology. Incoming students are required to conduct empirical research during their first year, and to provide a written report on the research. All students are required to present their research at least once every two years at a conference.

All candidates for the master's degree are required to conduct thesis research in one of the following areas of specialization within psychology: animal learning, physiological, developmental, cognitive, perception and psychophysics, personality and psychopathology, psychological aesthetics, social, or theoretical.

No language other than English is required for the master's degree.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary with the individual candidate; however, a minimum of two years is normally required.

204.71.3 The Degree of PhD

Program Requirements:

Students who are continuing after receiving a master's degree from the Department are required to take at least 12 units of course weight. These courses must be approved by the student's supervisory committee and may include courses and seminars offered in Psychology or in other Departments.

Students entering the program with a master's degree from another university are required to complete PSYCO 530, nine units of course weight from the core, and an additional three units of course weight. Incoming students are required to conduct an empirical research project during their first year, and to provide a written report on the research. All students are required to present their research at least once every two years at a conference.

Additional requirements for the PhD include the written and oral candidacy examinations and thesis research in one of the areas listed in §204.71.2, paragraph 2. Individual programs are determined in consultation with the student's supervisory committee.

No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD varies according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of two years beyond the master's degree is normally required.

204.71.4 Undergraduate Courses

The following may be taken for graduate credit:

PSYCO 433 Test Theory
★3 (either term, 3-0-1). Prerequisite: PSYCO 211 and a 300-level Psychology course.

PSYCO 475 Biological Bases of Behavior
★3 (first term, 0-0-6). Prerequisite or corequisite: PSYCO 275 and a 300-level Psychology course.

PSYCO 476 Physiological Psychology
★3 (second term, 0-0-6). Prerequisite: PSYCO 475.

204.71.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis

PSYCO 502 Professional and Ethical Issues
★2 (either term, 3-0-0).

PSYCO 503 Systems of Psychology
★3 (either term, 3-0-0).

PSYCO 504 Conference Course in Psychology
★3 (first term, 3-0-3).

PSYCO 505 Conference Course in Psychology
★3 (second term, 3-0-3).

PSYCO 530 Experimental Design
★6 (3-0-0).

PSYCO 541 Advanced Social Psychology
★3 (first term, 3-0-0).

PSYCO 560 Memory and Cognition
★3 (second term, 3-0-0).

PSYCO 561 Advanced Psychology of Conditioning and Learning
★3 (first term, 3-0-0).

PSYCO 562 Advanced Psychology of Perception
★3 (second term, 3-0-0).

PSYCO 567 Psychology of Development
★3 (first term, 3-0-0).

PSYCO 568 Seminar in Psychology of Development
★3 (either term, 0-3s-0).

PSYCO 575 Advanced Physiological Psychology
★3 (second term, 3-0-0).

PSYCO 576 Cognitive Neuroscience
★3 (either term, 0-3s-0). Prerequisite: Consent of department.

PSYCO 578 Experimental Psychopathology
★3 (either term, 3-0-3).

PSYCO 587 Advanced Abnormal Psychology
★3 (second term, 3-0-0). Prerequisite: Consent of department.

PSYCO 600 Individual Studies
★3 (either term, 3-0-0).

PSYCO 604 Topics in Quantitative Methods
★3 (either term, 3-0-0).

PSYCO 606 Topics in Instrumentation
★3 (either term, 3-0-0).

PSYCO 608 Topics in Physiological Psychology
★3 (either term, 3-0-0).

PSYCO 610 Topics in Conditioning and Learning
★3 (either term, 3-0-0).

PSYCO 612 Topics in Perception
★3 (first term, 3-0-0).

PSYCO 614 Topics in Social Psychology
★3 (either term, 3-0-0).

PSYCO 616 Topics in Personality
★3 (either term, 3-0-0).

PSYCO 618 Topics in Clinical Psychology
★3 (either term, 3-0-0).

PSYCO 620 Topics in Cognition
★3 (either term, 3-0-0).

PSYCO 622 Topics in Developmental Psychology
★3 (either term, 3-0-0).

PSYCO 624 Topics in Psychological Aesthetics
★3 (either term, 3-0-0).

PSYCO 632 Special Topics in Theoretical Psychology
★3 (either term, 0-3s-0).

204.72 Radiology and Diagnostic Imaging

Department of Radiology and Diagnostic Imaging
2A2 42 Mackenzie Health Sciences Centre
Edmonton, Alberta T6G 2B7

204.72.1 General Information

Facilities exist within the Department of Radiology and Diagnostic Imaging, University of Alberta, for students who wish to proceed to the Master of Science degree.

Research may be carried out in medical imaging, radiation oncology, radiological and health physics, or radiation biology and biophysics.

The Department of Radiology and Diagnostic Imaging also participates with other departments of the medical school in offering an interdisciplinary PhD program in medical sciences. Details of the entrance requirements and term of the PhD program are defined in §204.49 of this Calendar.

Inquiries regarding graduate work in the Department of Radiology and Diagnostic Imaging should be directed to the Department Chair or to the Director of Diagnostic Radiological Research, Department of Radiology and Diagnostic Imaging, 2A242 MacKenzie Health Sciences Centre.

Entrance Requirements:

The Department's minimum entrance requirements are graduation in medicine for the clinical research areas, and in the appropriate scientific disciplines for the other research studies, with an average of 7.0 or equivalent in the last two years of undergraduate (or graduate) work at the University of Alberta. Applicants with an equivalent qualification from a recognized institution will be considered for graduate studies. Where applicable (see calendar §202.2.2), applicants must obtain a score of 550 on the TOEFL test.

Financial Assistance:

Support may be obtained from several grant-awarding agencies for work in these areas.

204.72.2 The Degree of MSc

Program Requirements:

Appropriate course work will be decided upon in conjunction with the Chair of the Department or the Graduate Coordinator. Under normal circumstances candidates for the master's degree would be expected to complete nine units of course weight at the graduate-level and to prepare and defend a thesis on an approved topic.

There is no language requirement for the MSc.

The minimum period of residence is three four-month terms of full-time attendance at the University of Alberta.

Note: This program does not lead to specialty (fellowship) qualifications in Diagnostic Radiology, Radiation Oncology or Nuclear Medicine.

Length of Program:

The length of the program is one to two years.

204.72.3 Graduate Course

RADDI 511 Physics of Diagnostic Imaging — Fundamentals
★3 (2-0-1). This course is divided into two ma sections:
(1) Basic Radiation Physics which deals with nuclear a atomic structure using the Bohr model; Radiati Dose, Risk and Safety from low-level ionizing radiati to Diagnostic Radiology, Radiobiology.
(2) General Radiography: production and clinical use x-rays; the radiographic image and image parameter patient radiation/imaging concepts.

There will be also a lab component where th student will spend an average of one hour per week in diagnostic procedure room completing specified imagi tasks/lessons. These labs will not be held at speci times, but will be arranged individually for each stude This course will be offered in alternate years to RADI 512. Prerequisite or corequisite: PHYS 475/477 or co sent of department.

RADDI 512 Physics of Diagnostic Imaging - Imagir Modalities
★3 (2-0-0). This course will build on the curricul present in RADDI 511 and will discuss in detail t physics involved in the following imaging modalitie Fluoroscopy, Conventional Tomography, Digital Tec niques (DSA), Computed Tomography (C mammography, Nuclear Medicine, Ultrasound, Magne Resonance Imaging (MRI). This course will be offered alternate years to RADDI 511. Prerequisite or corequisi RADDI 511, PHYS 475/477 or consent of department

ON RA 530 Oncological Radiology
★3 (first term, 3-0-0). An advanced description of t effects of ionizing radiation deposited in mammali cells on cell biomolecules and function. Radiation- duced events will be discussed according to their tir scale of action. Selected topics include a description radiation physical and radiation chemical mechanisms relevance in mammalian cells will be presented. Ph nomenology of mammalian cell radiation response v be discussed in the context of specific theoretical mo els, cellular endpoints of proliferative capacity, chrom some aberration induction, mutation and cell transformati radiation damage in DNA and other biomolecules will described. General topics include the extrapolation cellular radiation response to tissue effects, the radiobiolo of solid tumors and estimation of radiation risk at l doses. Note: Offered in alternate years.

RADDI 600 Special Topics in Radiology Research
★2 (second term, 0-2s-0). A seminar course for a vanced students covering selected topics from the curr literature in the fields of medical imaging, radiologi physics, radiation biology and radiation biophysics.

204.73 Recreation and Leisure Studies

Department of Recreation and Leisure Studies
E401 Van Vliet Physical Education and Recreation Cen
University of Alberta
Edmonton, Alberta T6G 2H9

204.73.1 General Information

The Department of Recreation and Leisure Studi offers a program leading to the degree of Master of Arts recreation. The program provides advanced study in administration of recreation services, emphasizing acquisition of theoretical knowledge and the developm of skills for effective planning, management and po development. The three program foci are: (1) conce and theories relevant to leisure and recreation; (2) princip and practices of administration, with special referenc leisure and recreation services; and (3) research in recreation and leisure field. Beyond this required c program there is an opportunity for more specialized st in one of the sub-fields of leisure and recreation (e.g., history of recreation and leisure; the social psychology recreation and leisure; recreation resource planni recreation program planning and development; recreat services for selected user groups). All students m complete a thesis in their area of specialization.

The Department provides personal study and resea space, interactive terminals for the University's mainfra computer, minicomputers, technical support services a reference resource room. The close proximity of Alberta provincial government offices provides many uni opportunities for recreation and leisure research.

Entrance Requirements:

Applicants for admission to the program must hol four-year degree in recreation administration or a rela field and must have obtained a minimum average of 6.

quivalent in the last two years of undergraduate work (or raduate work) at the University of Alberta. Where applicable see §202.2.2) candidates must obtain a score of at least 00 on the TOEFL test. Applicants with an undergraduate egree in another field may apply for the qualifying year rogram. Full-time professional work experience is esirable, while some work experience in the field (if not ull-time, then as a part-time employee or volunteer) is ssential.

Financial Assistance:

Graduate assistantships are available to a limited umber of students.

For further information write to the Graduate oordinator, Department of Recreation and Leisure Studies.

204.73.2 The Degree of MA

Program Requirements:

o complete a minimum of 24 units of course weight, at east 12 of which must be recreation courses. In addition, ney must undertake research leading to the completion of thesis.

Two of the recreation courses (REC 500 and REC 10) are mandatory for all students. The remaining two equired recreation courses must be selected from REC 11, REC 531, REC 541 and REC 551.

All students must complete an approved graduate esearch methodology course at the University of Alberta nd must participate in the Department's graduate student-aculty research seminar.

The remaining nine units of course weight of the equired minimum of 24 units of course weight may be aken from any of those listed by the Faculty of Graduate tudies and Research for which the student has met the rerequisites and obtained approval from the student's rogram adviser.

There is no language requirement for the MA degree.

All students must complete a residence requirement f two four-month terms of full-time attendance at the niversity of Alberta.

ength of Program:

The time required to complete the program will vary ith the individual candidate; however, a minimum of 12 onths is normally required.

04.73.3 Undergraduate Course

Note: This is a senior undergraduate level course hich is approved to graduate credit. It may be selected s one of the approved optional courses; however, it oes not count as one of the four required recreation ourses.

LS 443 Perspectives on Leisure and Recreation esearch
3 (either term, 3-0-0). Formerly REC 477 and REC 479.

04.73.4 Graduate Courses

THES 900 Thesis
THES 999 Thesis

EC 500 Theory and Practice of Public Recreation dministration
3 (first term, 3-0-0).

EC 501 Directed Study
3 (first term, 3-0-0).

EC 503 Directed Study
3 (second term, 3-0-0).

EC 510 Concepts and Theories of Leisure and ecreation
3 (first term, 3-0-0).

EC 511 Historical Foundations of Public ecreation in Canada
3 (first term, 3-0-0).

EC 531 Socio-Psychological Dimensions of ecreation Involvement
3 (second term, 3-0-0).

EC 541 Outdoor Recreation Resources: Planning nd Management
3 (either term, 3-0-0).

EC 551 Public Recreation Services Policy and anning
3 (second term, 3-0-0).

EC 589 Selected Topics
3 (either term, 3-0-0).

EC 599 Directed Study
3 (either term, 1.5-0-0).

204.74 Romance Languages

Department of Romance Languages
1-2 Arts
University of Alberta
Edmonton, Alberta T6G 2E6

204.74.1 General Information

The Department of Romance Languages offers graduate work leading to the degrees of Master of Arts and Doctor of Philosophy. MA programs are offered in French or French-Canadian literature, French translation, Hispanic literatures, Italian literature, and Romance linguistics. PhD programs are offered in French/French-Canadian, Hispanic literatures, Romance linguistics, and Romance languages. N.B. Students working in applied and historical-comparative romance linguistics are normally expected to include some courses from the Department of Linquistics in their degree programs.

The Department is large and various, offers courses in many areas of study in Romance Languages, literatures and linguistics, and is supported by fine holdings in the University library. Students are asked to consult the Associate Chair (Graduate Coordinator) concerning course requirements and acceptable fields of research in the various areas of specialization.

Entrance Requirements:

Prospective graduate students will require a good undergraduate degree for admission to an MA program. The Department generally does not accept students with an overall grade point average of less than 7.0 in their last two undergraduate years at the University of Alberta, or an equivalent qualification from another institution, and normally requires that the grade point average for the year's work of a student in a qualifying year be at least 7.0. The MA or an equivalent degree from a recognized university is normally required for admission to the PhD program. A TOEFL score of 550 is required where applicable (see §202.2.2).

Financial Assistance:

Financial aid is available to admitted students in the form of Winter Session Graduate Assistantships (September to April) and Third Term Graduate Assistantships (May to August). Non-thesis students, qualifying students and probationary students are not eligible for Third Term assistantships.

204.74.2 The Degree of MA

Program Requirements:

For students entering from a four-year undergraduate program, the master's degree in all areas normally requires 18 units of course weight in graduate courses; for students who have done less undergraduate work, course requirements may vary. In addition, all French, Italian, and Hispanic programs require some practical training in bibliography.

There are two MA routes in French:

(1) a thesis-based MA in French literature or French-Canadian literature normally requires 18 units of course weight in graduate courses covering various literary periods and fields of study, and may lead to PhD work in French/French-Canadian literature;
(2) a thesis-based MA in French translation requires certain undergraduate translation and other courses as prerequisites (which may be completed in a Qualifying Year), and 18 units of course weight in graduate courses in practical translation and translation theory. It does not normally lead to the PhD degree at the University of Alberta.

In Hispanic literatures, and in Italian literature, course work for the MA is determined by the Department according to individual cases.

Two MA routes are available in Romance linguistics:

(1) a thesis-based MA designed to prepare the student for entrance into a PhD program normally requires 36 units of course weight in graduate courses, plus a thesis.
(2) a course-based MA designed to meet the needs of second-language teachers normally requires 36 units of course weight in graduate courses, plus a project equivalent to six units of course weight.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MA program will vary according to the previous training of the applicant and the nature of the research undertaken. However a minimum of 12 months is normally required.

204.74.3 The Degree of PhD

Program Requirements:

For a student presenting an MA in the same area of specialization, the PhD program in all areas normally requires 24 units of course weight in graduate courses (with the exception of the PhD in Romance languages which requires 36), prescribed departmental exams, the faculty candidacy oral examination, and a dissertation. There are additional major requirements for each area.

For the PhD in French literature, program requirements include a departmental written and oral exam and a critical essay which forms part of the material examined at the faculty candidacy examination.

Students working towards the PhD in Hispanic literatures must fulfill second Romance language and literature requirements as well as written examinations leading to the faculty candidacy examination.

Students working towards the PhD in Romance linguistics require proficiency in at least one Romance language, a reading knowledge of two additional Romance languages (Latin may be substituted for one of the preceding), a reading knowledge of an approved research language other than English or a Romance language, and a pre-candidacy research paper. At or near the beginning of their dissertation work, students will present for approval a prospectus of their dissertation.

The PhD program in Romance languages allows comparative study of two or more Romance literatures, or the study of one Romance literature and Romance linguistics. After demonstrating their linguistic competence, students are required to take a minimum of 36 units of course weight and, if required, further language examinations prior to the faculty candidacy examination. Students interested in this doctoral program must submit a detailed thesis proposal to the Department prior to seeking admission.

PhD students changing research fields will be required to obtain departmental approval and may be required to take a new candidacy examination meant to test their understanding of their newly selected research area.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of two years is normally required.

204.74.4 Graduate Courses

THES 900 Thesis
THES 999 Thesis
FREN 900 ★6 Directed Research Project
R LIN 900 ★6 Directed Research Project

French

FREN 500 Reading Course
★6 (3-0-0).

FREN 500
★6 (3-0-0). This course is for graduate students who wish to satisfy the language requirement of their Department. An intensive study of essential grammar, reading of graded texts, and translation of texts from the student's own field. Note: Not open to undergraduates.

FREN 501 Teaching Strategies for the Instruction of French
★0.

FREN 515 Intermediate Exercises in Translation: French into English
★3 (either term, 3-0-0). Prerequisite: FREN 415. Prerequisite or corequisite: FREN 400.

FREN 516 Intermediate Exercises in Translation: English into French
★3 (either term, 3-0-0). Prerequisite: FREN 416. Prerequisite or corequisite: FREN 400.

FREN 523 Studies in French Literary Movements
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 525 Studies in Forms and Genres in French Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 526 Studies in French Literary Theory and Criticism
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 528 Studies in Women's Literature in French
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 529 Studies in Francophone Literature Outside France
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 531 Studies in Medieval French Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 542 Studies in the French Renaissance
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 551 Studies in Seventeenth-Century French Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 560 Studies in Eighteenth-Century French Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 571 Studies in the Nineteenth-Century French Novel
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 572 Studies in Nineteenth-Century French Poetry and Theatre
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 573 Studies in Nineteenth-Century French Literary Movements
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 575 Studies in Nineteenth-Century French Thought
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 580 Studies in Twentieth-Century French Theatre
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 581 Studies in the Twentieth-Century French Novel
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 582 Studies in Twentieth-Century French Poetry
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 583 Studies in Twentieth-Century French Literary Movements
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 585 Studies in Twentieth-Century French Thought
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FREN 599 Directed Reading
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of Department.

FREN 600 Translation Theories: French-English; English-French
★3 (either term, 3-0-0).

FREN 601 Special Topics in Literary Translation
★3 (either term, 3-0-0). Prerequisite: Consent of department. Note: Restricted to students enroled in the MA in French Translation program.

FREN 611 History of French Syntax: From Its Origins to 1500
★3 (either term, 3-0-0) or ★6 (3-0-0).

FREN 613 History of French Syntax: From 1500 to the Present
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: FREN 611, or consent of department.

FREN 615 Advanced Exercises in Translation: French into English
★3 (either term, 3-0-0). Prerequisite: FREN 515 or equivalent. Note: Restricted to students enroled in the MA in Translation program.

FREN 616 Advanced Exercises in Translation: English into French
★3 (either term, 3-0-0). Prerequisite: FREN 516 or equivalent. Note: Restricted to students enroled in the MA in French Translation program.

FREN 620 Critical Studies in Translation: French-English, English-French
★3 (either term, 3-0-0). Prerequisite: Consent of department. Note: Restricted to students enroled in the MA in French Translation program. Formerly FREN 525.

FREN 622 Seminar in French Theatre
★3 (either term, 3-0-0) or ★6 (3-0-0).

FREN 623 Seminar in French Poetry
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

FREN 626 Seminar in French Literary Criticism
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

FREN 627 Seminar in the French Novel
★3 (either term, 3-0-0) or ★6 (3-0-0).

FREN 628 Seminar in French Literature
★3 (either term, 3-0-0) or ★6 (3-0-0).

FREN 635 Seminar in Medieval French Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0). Prerequisite: FREN 531 or consent of department.

FREN 641 Seminar in French Renaissance Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

FREN 652 Seminar in Seventeenth-Century Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

FREN 662 Seminar in Eighteenth-Century Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

FREN 672 Seminar in Nineteenth-Century Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

FREN 673 Seminar in Nineteenth-Century French Poetry and Theatre
★3 (either term, 3-0-0) or ★6 (3-0-0).

FREN 674 Seminar in the Nineteenth-Century French Novel
★3 (either term, 3-0-0) or ★6 (3-0-0).

FREN 680 Seminar in Twentieth-Century French Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0). Prerequisite: Consent of department.

FREN 681 Seminar in the Twentieth-Century French Novel
★3 (either term, 3-0-0) or ★6 (3-0-0).

FREN 682 Seminar in Twentieth-Century French Theatre
★3 (either term, 3-0-0) or ★6 (3-0-0).

FREN 683 Seminar in Twentieth-Century French Poetry
★3 (either term, 3-0-0) or ★6 (3-0-0).

FREN 685 Seminar in French Literature of the Last Twenty-Five Years
★3 (either term, 3-0-0) or ★6 (3-0-0).

FREN 696 Studies in Individual Authors
★3 (either term, 3-0-0) or ★6 (3-0-0).

FREN 697 Special Reading Course
★3 (either term, 3-0-0) or ★6 (3-0-0).

FREN 699 Conference Course
★3 (either term, 3-0-0) or ★6 (3-0-0).

French-Canadian Literature

FR CA 525 Studies in Forms and Genres in Quebec Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Study of selected forms and/or genres in Quebec literature. Prerequisite: Consent of department.

FR CA 526 Studies in Quebec Literary Theory and Criticism
★3 (either term, 3-0-0) or ★6 (3-0-0). Study of selected aspects of literary theory and/or criticism in Quebec. Prerequisite: Consent of department. Note: Not open to students with credit in FR CA 501.

FR CA 527 Literature and Society in Quebec
★3 (either term, 3-0-0) or ★6 (3-0-0). Study of selected aspects of the relationship between literature and society in Quebec. Prerequisite: Consent of department.

FR CA 584 Studies in the Literature of the Quiet Revolution
★3 (either term, 3-0-0) or ★6 (3-0-0). Study of selected texts from Quebec literature of the 1960s. Prerequisite: Consent of department.

FR CA 585 Studies in Quebec Literature from 1970 to the Present
★3 (either term, 3-0-0) or ★6 (3-0-0). Study of selected aspects of contemporary Quebec literature. Prerequisite: Consent of department.

FR CA 599 Conference Course
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

FR CA 640 Seminar: French and French-Canadian Literary Relations
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

FR CA 650 Seminar in French-Canadian Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

FR CA 691 Methods of Research
★3 (either term, 3-0-0).

FR CA 696 Seminar on Individual Authors
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

FR CA 699 Graduate Conference Course
★3 (either term, 3-0-0) or ★6 (3-0-0).

Italian

ITAL 501 Teaching Strategies for the Instruction of Italian
★0.

ITAL 505 Topics in Italian Medieval Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

ITAL 525 Topics in Italian Renaissance Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

ITAL 545 Topics in Italian Literature of the Seventeenth and Eighteenth Centuries
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

ITAL 565 Topics in Nineteenth Century Italian Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

ITAL 575 Topics in Twentieth Century Italian Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

ITAL 599 Conference Course
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

ITAL 600 Seminar in Thirteenth-Century Italian Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

ITAL 610 Seminar in Fourteenth-Century Italian Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

ITAL 620 Seminar in Fifteenth-Century Italian Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

ITAL 630 Seminar in Sixteenth-Century Italian Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

ITAL 640 Seminar in Seventeenth-Century Italian Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

ITAL 650 Seminar in Eighteenth-Century Italian Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

ITAL 660 Seminar in Nineteenth-Century Italian Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

ITAL 670 Seminar in Twentieth-Century Italian Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

ITAL 699 Conference Course
★3 (either term, 3-0-0) or ★6 (3-0-0).

Romance Linguistics

R LIN 480 Romance Structure: from Latin to Spanish
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Any senior-level course in Romance Linguistics or Linguistics, plus a 100-level (or above) course in Spanish or equivalent. Not open to students with credit in R LIN 580.

R LIN 490 Romance Structure: from Latin to Italian
★3 (either term, 3-0-0) or ★6 (3-0-0).Prerequisite: Any senior-level course in Romance Linguistics or Linguistics, plus a 100-level (or above) course in Italian or equivalent. Not open to students with credit in R LIN 590.

R LIN 501 Topics in Applied Romance Linguistics: Phonology
★3 (either term, 3-0-0). Prerequisite: Consent of department.

R LIN 502 Topics in Applied Romance Linguistics: Morphology and Syntax
★3 (either term, 3-0-0). Prerequisite: Consent of department.

R LIN 503 Early Romance
★3 (either term, 3-0-0). Prerequisite: Two 3 weight courses in Romance linguistics or equivalent. Students cannot receive credit in both R LIN 503 and 505.

R LIN 504 Seminar in Portuguese
★3 (second term, 0-3s-0). Prerequisite: R LIN 440.

R LIN 508 Seminar in Romanian
★3 (second term, 0-3s-0). Prerequisite: R LIN 360.

R LIN 511 Seminar in Applied Romance Linguistics
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

R LIN 550 Topics in Historical-Comparative Romance Linguistics
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

R LIN 583 Applied Romance Linguistics: The Use of the Computer as a Research Tool
★3 (either term, 3-0-0). Prerequisite: R LIN 501 or 502. Not open to students with credit in R LIN 683.

R LIN 585 Experimental Methods and Design in Applied Romance Linguistics
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: LING 541.

R LIN 595 Seminar in Comparative Romance Linguistics
★3 (either term, 3-0-0).

R LIN 599 Directed Studies
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

R LIN 605 Advanced Experimental Methods and Design in Applied Romance Linguistics
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: R LIN 585 or LING 583, or consent of department.

R LIN 610 Topics in Romance Linguistics
★3 (either term, 3-0-0) or ★6 (3-0-0).

R LIN 611 Advanced Seminar in Romance Linguistics
★3 (either term, 0-3s-0) or ★6 (0-3s-0) .

R LIN 699 Directed Research
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

Hispanic Languages and Literatures

SPAN 500 Reading Course
★6 (3-0-0).

CATLN 501 Catalan
★3 (either term, 3-0-0) or ★6 (3-0-0).

SPAN 501 Teaching Strategies for the Instruction of Spanish
★0 (first term, 1-1s-0).

SPAN 520 Honors Tutorial
★3 (3-0-0).

SPAN 525 Approaches to Literary Criticism
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

SPAN 530 Topics in Medieval and Renaissance Literature
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

SPAN 550 Topics in Spanish Literature of the Golden Age
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

SPAN 570 Topics in Spanish Literature of the Nineteenth Century
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

SPAN 580 Topics in Spanish Literature of the Twentieth Century
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

SPAN 585 Topics in Spanish American Literature of the Twentieth Century
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

SPAN 599 Conference Course
★3 (either term, 3-0-0) or ★6 (3-0-0). Prerequisite: Consent of department.

SPAN 625 Problems of Criticism in Hispanic Literatures
★3 (either term, 3-0-0) or ★6 (3-0-0). Not open to students with credit in SPAN 690.

SPAN 630 Seminar in Spanish Medieval Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 640 Seminar in Spanish Renaissance Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 645 Seminar in the Literature of the Discovery, Conquest and Colonization of America
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 651 Seminar in the Spanish Drama of the Golden Age
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 652 Seminar in the Spanish Poetry of the Golden Age
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 653 Seminar in Spanish Prose Writers of the Golden Age
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 660 Seminar in Spanish Literature of the Eighteenth Century
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 670 Seminar in Spanish Literature of the Nineteenth Century
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 675 Seminar in Spanish American Literature of the Nineteenth Century
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 681 Seminar in Spanish Drama of the Twentieth Century
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 682 Seminar in Spanish Poetry of the Twentieth Century
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 683 Seminar in Spanish Prose Writers of the Twentieth Century
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

CATLN 685 Seminar on Medieval Catalan Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 686 Seminar in Spanish American Drama of the Twentieth Century
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 687 Seminar in Spanish American Poetry of the Twentieth Century
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 688 Seminar in Spanish American Prose Writers of the Twentieth Century
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

CATLN 690 Seminar on Contemporary Catalan Literature
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 691 Seminar in Hispanic Literatures
★3 (either term, 0-3s-0) or ★6 (0-3s-0).

SPAN 699 Conference Course
★3 (either term, 3-0-0) or ★6 (3-0-0).

Romance Literatures

R LIT 500 Bibliography and Thesis Style
★1 (first term, 0-1s-0). Prerequisite: Consent of department.

204.75 Rural Economy

Department of Rural Economy
515 General Services Building
University of Alberta
Edmonton, Alberta T6G 2H1

204.75.1 General Information

The Department of Rural Economy offers programs leading to the Master of Agriculture, Master of Science and Doctor of Philosophy degrees. Programs at the master's level are offered in agricultural finance, management, marketing, policy, prices, production, international trade, forest economics, natural resource economics, rural development and rural sociology. Programs at the doctoral level are offered in agricultural economics and forest economics.

Entrance Requirements:

The Department's minimum admission requirements for each master's program are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2). Admission requirements for the doctoral program are an approved master's degree with an average of at least 7.5 or equivalent or an approved bachelor's degree with an average of at least 8.0 or equivalent, and a TOEFL score of 550 where applicable (see §202.2.2).

Financial Assistance:

Information about details of program requirements and the availability of financial assistance may be obtained from the Department.

204.75.2 The Degree of MAg

Applicants for this program are normally expected to have completed three years of satisfactory professional experience in agriculture.

Program Requirements:

Master of Agriculture programs consist of 30 units of course weight plus a project course equivalent in weight to at least three units of course weight. Students must also participate in the graduate seminar AG EC 601 while in residence.

There is no language requirement for the degree of MAg.

Candidates must spend a minimum of one single term (four months) in full-time attendance at the University of Alberta to meet the residence requirement.

Length of Program:

A candidate with adequate undergraduate prerequisites and appropriate professional experience should complete the program in one academic year (twelve months).

204.75.3 The Degree of MSc

Program Requirements:

Master of Science programs consist of at least 18 units of course weight plus a thesis equivalent in weight to 12 to 18 units of course weight. At least 12 units of course weight must be in addition to specified undergraduate course requirements. Students must also participate in AG EC 601 while in residence.

No language other than English is required for the MSc.

Candidates must spend a minimum of two single terms (eight months) in full-time attendance at the University of Alberta to meet the residence requirement.

Length of Program:

The time required to complete the MSc will vary with the individual candidate; however, a Category A MSc candidate should be able to complete the program in 12 to 16 months.

204.75.4 The Degree of PhD

Program Requirements:

Doctor of Philosophy programs include, in addition to the Master of Science course requirements, preparation for candidacy examinations in economic theory, quantitative techniques, the field of specialization and a supporting field. Fields of specialization are limited to agricultural economics and forest economics. In addition, all candidates for the PhD must prepare and defend a thesis on an approved topic and must participate in the graduate seminar AG EC 601 while in residence.

A minimum of 36 units of course weight in graduate courses shall be taken at the University of Alberta of which at least 18 units of course weight shall be from the Department of Rural Economy.

No language other than English is required for the degree.

Length of Program:

The time required to complete the PhD will vary according to the academic background of the applicant and the nature of the research undertaken; however, a minimum of 30 months is normally required.

204.75.5 Undergraduate Courses

The following may be taken for graduate credit:

R SOC 391 Principles of Rural Extension
★3 (first term, 3-0-0). Prerequisite: Third year standing or higher.

AG EC 406 Economics of Grain
★3 (first term, 3-0-0). Prerequisite: AG EC 333 and AG EC 384; PL SC 355 recommended.

R SOC 415 Socio-Economic Research Techniques
★3 (either term, 3-0-2). Prerequisite: Third year standing or higher.

AG EC 416 Statistical Analysis
★3 (first term, 3-0-2). Prerequisite: AG EC 315.

AG EC 423 Management Techniques in Agriculture and Forestry
★3 (second term, 3-0-0). Prerequisite: AG EC 323.

AG EC 433 Advanced Farm and Ranch Management
★3 (second term, 3-0-0). Prerequisite: AG EC 333.

AG EC 435 Agriculture and Forestry Law
★3 (either term, 3-0-0). Prerequisite: One of AG EC 333, 384, FOREC 345, or INT D 365.

FOREC 445 Forest Production Economics
★3 (second term, 3-0-0). Prerequisite: Consent of instructor; FOREC 345 recommended.

INT D 456 Rural Social Problems and Public Policy
★3 (either term, 3-0-0). Prerequisite: Consent of instructor; INT D 356 recommended. (Offered jointly by the Departments of Rural Economy and Sociology.) [Rural Economy]

INT D 458 Socioeconomic Development of Western Canadian Agriculture
★3 (first term, 3-0-0). Prerequisite: R SOC 355, or one of SOC 100 or 300. (Offered jointly by the Departments of Rural Economy and Sociology.) [Rural Economy]

INT D 465 Natural Resource Utilization
★3 (either term, 3-0-0). Prerequisite: INT D 365. [Rural Economy]

AG EC 475 Agricultural and Rural Development
★3 (second term, 3-0-0). Prerequisite: One of INT D 303, INT D 356, or AG EC 373.

AG EC 484 Agricultural Marketing Economics
★3 (second term, 3-0-0). Prerequisite: AG EC 384.

INT D 486 Livestock and Meat Marketing
★3 (second term, 3-0-1). Prerequisite: AG EC 384. Note: Limited enrollment, preference given to fourth year agricultural students. (Offered jointly by the Departments of Rural Economy and Animal Science.) [Rural Economy]

R SOC 491 Planning and Evaluation of Extension Programs
★3 (second term, 3-0-0). Prerequisite: R SOC 391.

204.75.6 Graduate Courses

THES 900 Thesis
THES 999 Thesis
AG EC 900 ★3 Directed Research Project
R SOC 900 ★3 Directed Research Project

Agricultural Economics

AG EC 500 Research Projects in Agricultural Economics
★3 (either term, 0-3s-0). Individual study. Investigations of a special problem involving field or library study and preparation of written reports. Note: May be repeated for credit one time. Prerequisite: Consent of Department Chair.

AG EC 502 Theoretical Applications to Agricultural Economics
★3 (first term, 3-0-0). Elements of production, marketing, and welfare theories, and cost theory extensions, with applications to agricultural problems. Prerequisite: Consent of Department Chair.

AG EC 513 Agricultural Econometrics
★3 (either term, 3-0-3). Econometric theory, multiple linear regression analysis, and interpretation, simultaneous equation estimation, applications of econometric techniques to agricultural economic problems. Prerequisite: AG EC 416.

AG EC 514 Quantitative Techniques
★3 (either term, 3-0-3). Applications of econometric extensions, operations research, mathematical programming and input-output analysis of problems in agricultural economics. Prerequisite: Consent of instructor; AG EC 316 and AG EN 420 recommended.

AG EC 515 Research Methodology
★3 (first term, 3-0-0). Problem identification and analysis, inductive procedures, formulating and testing hypotheses, causal analysis, rules of inference, role of theory, designing research projects. Prerequisite: Consent of instructor; AG EC 416 recommended.

AG EC 533 Production Economics
★3 (second term, 3-0-3). Static and dynamic firm theory, production principles applied to resource use, resource and product combination, cost structure, uncertainty and expectations. Prerequisite: Consent of instructor; AG EC 502 and 416 recommended.

AG EC 565 Natural Resource Economics
★3 (either term, 3-0-0). Availability, utilization, and quality of natural resources; criteria for resource development and conservation; public policy problems and analysis. Prerequisite: Consent of instructor; AG EC 502 and 416 recommended.

AG EC 573 Agricultural Economics Policy
★3 (first term, 3-0-0). Goals and instruments of agricultural policy, model constructions with decision and control criteria; national, regional, and provincial agricultural application. Prerequisite: Consent of instructor; AG EC 502 and 416 recommended.

AG EC 575 Agriculture in Developing Countries
★3 (either term, 3-0-0). The role of agriculture in the economic growth of developing countries; influence of international trade and commodity agreements on economic development. Prerequisite: Consent of instructor; AG EC 475 and 502 recommended.

AG EC 584 Marketing Economics
★3 (second term, 3-0-0). Market competition, price and location theories; market structure analysis; and market performance criteria. Prerequisite: Consent of instructor; AG EC 502 and 416 recommended.

AG EC 585 Agricultural Trade and Price Analysis
★3 (either term, 3-0-0). Concepts underlying agricultural specialization and trade; spatial and behavioural price analyses; impact of trade controls and commodity agreements. Prerequisite: Consent of instructor; AG EC 485 recommended.

AG EC 600 Directed Studies
★3 (either term, 0-3s-0). Analysis of selected research problems and design of research projects in production economics, natural resource economics, marketing economics, or forest economics. Prerequisite: Consent of Department Chair.

AG EC 601 Rural Economy Seminar
★1 (0-1s-0). A full session course; may be offered over a single term. Reports by students, staff and visitors on studies of literature, current research, and thesis projects. All graduate students will be required to attend this course on a continuing basis while in residence at the University. Credit for this course requires presentation of a research seminar.

Forest Economics

FOREC 545 Economics of Timber Utilization
★3 (second term, 3-0-0). Concerns introduction of wood processing industries into areas of predominantly old growth stock; optimum depletion rates and sustention of yield, development of infrastructure; siting mills; transportation and the pattern of development of wood processing industries; the role of the forest industries in regional development. Prerequisite: Consent of instructor; FOREC 445 recommended. [Rural Economy]

Rural Sociology

R SOC 556 Human Resources Development
★3 (first term, 3-0-0). The role of human resources in social and economic development. Strategies for development of knowledge; skills and attitudes desirable in the development process. Training of change agents and lay leaders for community development and continuing education process. Prerequisite: Consent of instructor.

R SOC 557 Comparative Rural Societies
★3 (second term, 3-0-0). The structure and characteristics of rural societies in various countries, with emphasis upon adjustment to change in social and economic institutions. Prerequisite: Consent of instructor; INT D 456 recommended.

204.75.7 Reserve List

The Department is unable to offer the following courses regularly. Students should consult the Department and/or the University timetable.

AG EC 633 Production Economics Research
★3 (second term, 3-0-0). Analysis of selected research problems; design of research projects in production economics. Prerequisite: AG EC 533.

AG EC 665 Natural Resources Economics Research
★3 (second term, 3-0-0). Analysis of selected research problems and designing of research projects dealing with natural resources of importance to agriculture. Prerequisite: AG EC 565.

AG EC 684 Marketing Economics Research
★3 (second term, 3-0-0). Analysis of selected research problems; design of research projects in marketing economics. Prerequisite: AG EC 584.

204.76 Secondary Education

Department of Secondary Education
341 Education South
University of Alberta
Edmonton, Alberta T6G 2G5

204.76.1 General Information

The Department of Secondary Education offers programs leading to the Master of Education (with or without thesis), Doctor of Philosophy and Doctor of Education degrees. Graduate instruction in these programs is designed to develop competencies as master teachers, educators in the specific disciplines, curriculum and instruction specialists, and curriculum and instruction scholars.

Graduate programs in the Department normally include advanced studies in the following areas: subject matter specialization, curriculum and instruction related to a specific discipline, enquiry into curriculum perspectives and into the nature of education and its practice. Programs of an interdisciplinary nature, and co-advisers, are possible. The particular program for each student is designed in consultation with a staff advisor designated by the Chair of the Department.

Application forms for admission to a program or further information regarding the programs may be secured by writing to the Chair of the Department of Secondary Education.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2). In addition, candidates must obtain a satisfactory score on either the Miller Analogies Test or the Graduate Record Examination before they are considered for admission. No arbitrary standards are employed for the Miller or GRE results since they are used as corroborative evidence in conjunction with other indicators of potential.

Financial Assistance:

Limited assistantships are available to qualified candidates for the MEd, EdD or PhD in Secondary Education for services rendered in the Department's programs.

204.76.2 The Degree of MEd

Normally, two years of teaching experience and an undergraduate degree of appropriate quality are required for admission to MEd programs.

Program Requirements:

The normal course load per term consists of nine to 12 units of course weight. Students in the course-based MEd route normally must successfully complete 42 units of course weight (usually 14 three-weight courses) and present a project (equivalent to six units of course weight) in colloquium. Students in the thesis-based MEd route normally complete 30 units of course weight, and complete and successfully defend a thesis.

There is no language requirement for the degree of MEd.

Both resident (full-time) and non-resident (part-time) programs are available through the Department. A minimum of two consecutive four-month terms of full-time attendance at the University of Alberta are required for the resident program, in both thesis-based and course-based routes. The course-based master's is also offered on a part-time basis.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research undertaken. Normally, the maximum time allowed to complete the requirements for the degree is four years.

204.76.3 The Degrees of EdD and PhD

Program Requirements:

The EdD and PhD programs normally consist of coursework and the preparation and defence of a dissertation on an approved topic.

There is no language requirement for the PhD degree.

Both doctoral programs require two academic years of full-time attendance to meet the residence requirement; this involves four (four-month) terms of full-time study with a minimum of nine units of course weight per term.

Length of Program:

The time required to complete the EdD or PhD program will vary with the individual candidate; however, a minimum of two years of full-time study and research is usually required. The maximum time normally allowed for completion of the doctoral program is five years.

204.76.4 Courses for Graduate Credit

The following may be taken for graduate credit:

THES 900 Thesis
THES 999 Thesis
EDSEC 900 ★6 Directed Research Project

Curriculum and Instruction

EDSEC 501 Conference Seminar in Secondary Education I
★1, or ★2, or ★3 (variable). Prerequisite: Consent of instructor and Department.

EDSEC 502 Advanced Level Guided Individual Study in Secondary Education
★1, or ★2, or ★3 (variable). Prerequisite: Consent of instructor and Department.

EDSEC 503 Curriculum Development
★3 (first term, 3-0-0). Curriculum theory and research with particular reference to determinants of curriculum, curriculum development, implementation and evaluation.

EDSEC 504 Current Curriculum Development
★3 (second term, 3-0-0). The application of curriculum theory to a specific task; the planning of a curriculum which can be used by teachers as a point of departure for their teaching.

EDSEC 510 Research Methods in Secondary Education
★3 (first term, 3-0-0).

EDSEC 511 Research Design in Secondary Education
★3 (second term, 3-0-0).

EDSEC 539 Secondary Mathematics Education Research Seminar
★3 (first term, 3-0-0).

EDSEC 540 Secondary Mathematics Education Teaching and Program Analysis
★3 (second term, 3-0-0).

ED ES 541 School Library Collection Development
★3 (either term, 3-0-0). Prerequisite: ED ES 443 or consent of department.

ED ES 543 School Library Programs
★3 (second term, 3-0-0). Focus on cooperative planning and implementation of school library programs. Prerequisite: ED ES 443 or consent of department.

ED ES 546 School Library Information Materials
★3 (either term, 3-0-0). Prerequisite or corequisite: ED ES 443 or consent of department.

ED ES 547 Organization of School Library Materials
★3 (either term, 3-0-2). Prerequisite or corequisite: ED ES 443 or consent of department.

ED ES 548 Directed Study in School Library Research
★3 (second term, 3-0-0). Prerequisite or corequisite: ED ES 443 and 543 or consent of department.

ED ES 551 Curriculum Design
★3 (either term, 3-0-0). The application of curriculum theory to a specific task; the planning of a curriculum which can be used by teachers as a point of departure for their teaching.

EDSEC 566 Science and Society: Implications for Teaching
★3 (either term, 0-3s-0). A seminar course on the nature of science and social aspects of science, and implications for science teaching. Emphasis is placed on the understanding of the scientific components of current social problems, and techniques and curricula for dealing with the nature and social context of science.

EDSEC 567 Instructional Strategies in Science Teaching
★3 (either term, 0-3s-0). A seminar course in which an in-depth study is made of the major techniques in science instruction. Heavy emphasis is given to research in science education and its implication for instruction.

EDSEC 575 Current Trends and Issues in Secondary School Social Studies
★3 (either term, 3-0-0).

EDSEC 576 Topics in the History and Development of the Social Studies
★3 (either term, 3-0-0).

EDSEC 600 Secondary Education
★6 (3-0-0). Reading and discussion of research, curriculum, and teaching procedures in secondary schools.

EDSEC 601 Conference Seminar in Secondary Education II
★1, or ★2, or ★3 (variable). Prerequisite: Consent of instructor and Department.

EDSEC 602 The Curriculum of Teacher Education
★6 (3-0-0). This course is designed for the achievement of a perspective on current philosophies and practices in teacher education, and the identification of proposals for modification and reform.

EDSEC 605 Studies in Pedagogy
★3 (either term, 0-3s-0). This is a course on the reflective and prereflective process in teaching, childcare or pedagogy. The focus will be on the nature of the pedagogical moment, forms of pedagogic understanding, pedagogic thoughtfulness and tact, and other selected concerns pertaining to everyday pedagogic thinking and acting. To a certain extent this course will draw on historical and modern continental thought and scholarly sources.

EDSEC 610 Advanced Research Topics in Secondary Education
★3 (either term, 0-3s-0).

EDSEC 611 Human Science Research in Pedagogy
★6 (0-3s-0). In this course students are introduced to a qualitative approach to pedagogical research and theorizing that is based on phenomenology, hermeneutics, and aspects of semiotics, critical ethnography and related human sciences.

EDSEC 614 Current Issues in Art Education
★3 (first term, 3-0-0). Prerequisite: Undergraduate major in art or consent of instructor.

EDSEC 615 Directed Study in Art Education
★3 (second term, 3-0-0). Prerequisite: EDSEC 614 or consent of Department.

EDSEC 619 Seminar: Secondary School Business Education
★6 (3-0-0).

EDSEC 624 Seminar: Secondary Education Drama
★6 (3-0-0).

EDSEC 629 Seminar: English Language Arts
★6 (0-3s-0).

EDSEC 634 Seminar: Secondary Education Home Economics
★6 (3-0-0).

EDSEC 639 Seminar: Secondary Education Mathematics
★6 (3-0-0).

EDSEC 644 Seminar: Secondary Education Music
★6 (3-0-0).

ED ES 649 Curriculum Evaluation
★3 (first term, 3-0-0). An inter-departmental seminar devoted to an examination of evaluation in the broad perspective of its place in education.

EDSEC 649 Seminar: Curriculum in Secondary School Physical Education
★3 (first term, 3-0-0).

ED ES 650 Curriculum Evaluation Practicum
★3 (either term, 3-0-0). The preparation and implementation of an evaluation study in the field. Prerequisite or corequisite: ED ES 649.

EDSEC 650 Seminar: Instruction in Secondary School Physical Education
★3 (second term, 3-0-0).

EDSEC 666 Development, Implementation and Evaluation of Science Curricula
★3 (either term, 0-3s-0). An advanced seminar course on theory, practice and research on science curricula. The historical, philosophical, psychological and sociological aspects of science curricula are also considered, as are the applications of information storage, retrieval and dissemination techniques to curriculum materials.

EDSEC 667 Current Issues and Trends in Science Education
★3 (either term, 0-3s-0). A seminar course in which an examination and synthesis is made of current thinking and research in science education. Topics are selected from major areas of interest including curriculum development, scientific literacy, science concept acquisition, instruction and evaluation. Emphasis is given to classroom applications of major ideas.

EDSEC 670 Seminar: Secondary Language Education
★6 (0-3s-0).

EDSEC 675 Seminar: Secondary Education Social Studies
★6 (3-0-0).

204.77 Slavic and East European Studies

Department of Slavic and East European Studies
450 Arts Building
University of Alberta
Edmonton, Alberta T6G 2E6

204.77.1 General Information

The Department of Slavic and East European Studies offers programs leading to the degrees of Master of Arts and Doctor of Philosophy.

MA programs are offered in (a) Russian, Ukrainian, Slavic Linguistics, Slavic Literatures, and (b) East European and Soviet Studies. PhD programs are offered in Slavic Languages and Literatures and in Slavic Linguistics. The Department will approve only fields of study in which adequate library resources and supervision are available.

Students are asked to consult the Department concerning acceptable areas of research and course requirements in the various areas of specialization.

The holdings of the University of Alberta Library in Slavic Languages and Literatures comprise some 39,000 works; of these, approximately 18,500 are in Russian, 5,200 are in Ukrainian and 4,200 in Polish. The majority of the holdings are computerized for quick retrieval. Computerization of research projects and thesis writing is available both on the Amdahl 5860 and on Macintosh and Apple microcomputers.

Research interests in the Department include the following. In literature: Russian and Ukrainian Nineteenth and Twentieth century literatures, especially Romanticism and Modernism; also Polish literature. In linguistics: synchronic and diachronic phonology, especially Russian and Ukrainian; Russian syntax; and Slovene and Ukrainian dialectology. In folklore: the history of Ukrainian folklore studies and Ukrainian-Canadian topics. In the social sciences: the 'Woman Question' in the Soviet Union and Eastern Europe; Russian intellectual history.

The Department also participates with other departments in offering programs of study leading to the degrees of MA, MEd, and PhD with notation of specialization in East European and Soviet Studies.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 7.0 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2).

Financial Assistance:

Financial aid is available in the form of graduate assistantships. Applications for these assistantships should be made before March 1 and should be sent to the Chair of the Department.

204.77.2 The Degree of MA

Program Requirements:

Requirements for the MA degree include:

(1) for (a) Russian, Ukrainian, Slavic Linguistics and Slavic Literatures completion of a minimum of 18 units of course weight, including SLAV 515; for (b) East European and Soviet Studies completion of a minimum of 18 units of course weight from within the Department, including INT D 546 and six units of course weight in one other area-related course, or six units of course weight outside the Department.

(2) for (a), a thorough knowledge of the language of specialization; competent reading knowledge of a second Slavic language and/or French or German. Specialists in Russian must normally pass RUSS 501 and RUSS 502 during the first year of their program; for (b), a knowledge of the language of the area of study and normally, of one other major language of Eastern Europe, or German or French;

(3) submission and oral defence of a thesis.

Candidates for the MA must spend at least two four-month terms in full-time residence at the University of Alberta.

Length of Program:

The time required to complete the program will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of 12 months is normally required.

204.77.3 The Degree of PhD

To be admitted as a provisional candidate for the PhD a student must normally hold the equivalent of the MA in Slavic Languages from the University of Alberta. Students whose MA work was done at other universities may be required to make up program deficiencies by special examination or by course work. Any make-up examinations are to be taken within one year following admission as a provisional PhD candidate.

Program Requirements:

General requirements for the PhD include the completion of a minimum of 24 units of course weight beyond the master's degree, and an additional six units of course weight in a minor subject, and the submission and oral defence of a dissertation. Specific requirements include:

(1) for students in Slavic Languages and Literatures:

a. Russian Language and Literature: comprehensive knowledge of Russian Literature and general knowledge of at least one of the other Slavic literatures and cultures; active knowledge of Russian. The suggested minor in this program is Comparative Literature.

b. Ukrainian Language and Literature: comprehensive knowledge of Ukrainian literature and general knowledge of at least one of the other Slavic literatures and cultures; active knowledge of Ukrainian. The suggested minor in this program is Comparative Literature.

c. Ukrainian Folklore: comprehensive knowledge of Ukrainian folklore and general knowledge of the folklore of another Slavic group; active knowledge of Ukrainian; and an approved minor.

In all three programs competent reading knowledge of one other Slavic language plus French or German is required.

(2) For students in Slavic Linguistics: comprehensive knowledge of the history and structure of one Slavic language and general knowledge of the history and structure of each of the three groups of Slavic languages (East, West and South Slavic); active knowledge of one Slavic language; competent reading knowledge of Russian, of French or German, and of one West Slavic and one South Slavic language. The suggested minor in this program is Linguistics.

Candidacy examination: Written examinations covering the candidate's area of specialization. If the student passes the written examination, the student will be examined orally on the student's areas of specialization and dissertation proposal.

The residence requirement for PhD students is a minimum of two years in full-time attendance at the University of Alberta. At the Department's discretion, and with approval of the Faculty of Graduate Studies and Research, a student may be permitted to spend up to one year of the period of residence at another institution (preferably, in a Slavic-speaking country).

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of three years is normally required.

204.77.4 The Degrees of MA and MEd With the Notation of Specialization in East European and Soviet Studies, Offered with Participating Departments

Slavic and East European Studies coordinates interdisciplinary programs and courses dealing with Eastern Europe, the Soviet Union, and East European peoples in Canada.

The departments participating in offering graduate programs leading to the notation of "specialization in East European and Soviet Studies" are Comparative Literature, Economics, Educational Foundations, Educational Psychology, Geography, History, Physical Education, Political Science, and Sociology.

Signatures from the Department of Slavic and East European Studies and from the other participating department are required on the recommendation of admission, the study program, the notice of oral examination, and the report of the final examining committee (see §203.1.2).

Slavic and East European Studies and the other participating department shall agree to the nature of the student's program of study, including the specification of course requirements, by joint signing of a program of study. Similar agreements with respect to general departmental requirements and comprehensive examinations shall be placed in the student's file.

Supervisory committees must include at least one member from Slavic and East European Studies and one from the participating department. These shall not be the same person. For examining committees, an additional person shall be added who is neither from Slavic and East European Studies nor from the department participating in the student's program.

Inquiries, including requests for financial aid, should be sent by March 1 to the Chair, Slavic and East European Studies.

Entrance Requirements:

The minimum admission requirements are those normally required for admission to the master's program in the relevant participating department.

Graduate students in western Canadian universities may be admitted to Slavic and East European Studies as visiting graduate students.

Financial Assistance:

A number of graduate assistantships are available through the Department of Slavic and East European Studies and through participating departments.

Program Requirements:

The basic graduate program at the master's level normally consists of a number of courses of area-related study in the participating department (the specific number of courses will depend on the department involved); the interdisciplinary seminar on East European and Soviet Studies (INT D 546); and a thesis on Eastern Europe, the Soviet Union, or East Europeans in Canada. Unless waived on the basis of previous study or background, students are also required to include in their program one area-related full-year course or two single-term courses from a third department.

In addition, the student must demonstrate competence in one of the languages of the area to the satisfaction of the Department of Slavic and East European Studies.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MA or MEd program will vary with the individual candidate; however, a minimum of two years is normally required.

204.77.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis

Interdisciplinary Studies

INT D 546 East European and Soviet Studies
★6 (3-0-0). An interdisciplinary seminar. (Offered jointly by the Departments of Slavic and East European Studies, Comparative Literature, Economics, Geography, History, Political Science, Sociology.) [Slavic and East European Studies]. Note: This course will not fulfill the Language other than English requirement of the BA degree.

Russian

RUSS 500 Reading Course
★6 (3-0-0). This course is for graduate students who wish to satisfy the language requirement of their Department. An intensive study of essential grammar, reading of graded texts, and translation of texts from the student's own field. Note: Not open to undergraduates.

RUSS 501 Composition and Conversation I
★3 (either term, 3-0-0).

RUSS 502 Composition and Conversation II
★3 (either term, 3-0-0).

RUSS 511 The Structure of Russian I: Syntax
★3 (either term, 3-0-0).

RUSS 512 The Structure of Russian II: Phonology
★3 (either term, 3-0-0).

RUSS 516 Medieval Muscovite Literature
★3 (either term, 3-0-0). Russian literature from the fourteenth century through the seventeenth.

RUSS 551 Eighteenth Century Russian Literature and Culture
★3 (either term, 3-0-0). Russian literature during the century of Russia's Europeanization.

RUSS 555 Russian-English: Contrastive Linguistics
★3 (either term, 3-0-0). Contrastive study of the phonology, morphology and syntax of Russian and English with emphasis on second language acquisition. Prerequisite: RUSS 202 or 203, or 453, or consent of department.

RUSS 571 History of Russian Criticism
★3 (either term, 3-0-0). A detailed study with emphasis on the nineteenth and twentieth centuries.

RUSS 572 Russian Literary Theory
★3 (either term, 3-0-0). A detailed study with emphasis on formalism and realism.

RUSS 641 Studies in Russian Poetry
★3 (either term, 3-0-0).

RUSS 643 Studies in Russian Realism
★3 (either term, 3-0-0).

RUSS 645 Studies in Soviet Russian Literature
★3 (either term, 3-0-0).

RUSS 647 Aspects of Modernism in Russian Literature
★3 (either term, 3-0-0). This course is designed to deal with the various aspects of the literary movements generally known as "Symbolism" and "Decadence".

RUSS 650 Topics in Russian Literature
★3 (either term, 3-0-0).

RUSS 696 Studies in Individual Authors
★3 (either term, 3-0-0) or ★6 (3-0-0).

RUSS 699 Conference Course
★3 (either term, 3-0-0) or ★6 (3-0-0). A detailed study of a literary problem, period or genre not dealt with in the other Honors or graduate courses. Designed to meet the needs of individual Honors or Graduate students.

Slavics

SLAV 515 Old East Slavic Literature
★3 (either term, 3-0-0). Survey of Old East Slavic literature up to the fourteenth century, with emphasis on literary documents from Kiev and Novgorod.

SLAV 518 Comparative Slavic Linguistics
★3 (either term, 3-0-0).

SLAV 522 Historical Grammar of East Slavic
★3 (either term, 3-0-0). Detailed discussion of some specific problems in the historical development of Russian, Ukrainian, and Byelorussian.

SLAV 561 History of the West Slavic Languages
★3 (either term, 3-0-0).

SLAV 562 History of the South Slavic Languages
★3 (either term, 3-0-0).

SLAV 650 Topics in Slavic Linguistics
★3 (either term, 3-0-0).

SLAV 696 Readings in Old Slavic Texts
★3 (either term, 3-0-0) or ★6 (3-0-0).

SLAV 699 Conference Course
★3 (either term, 3-0-0) or ★6 (3-0-0). Designed to meet the needs of individual Honors and Graduate students. The course will normally deal with a Slavic language or national literature not otherwise offered.

Ukrainian

UKR 503 Ukrainian Stylistics
★3 (either term, 3-0-0).

UKR 504 Problems in English-Ukrainian Translation
★3 (either term, 3-0-0).

UKR 511 The Structure of Ukrainian
★3 (either term, 3-0-0).

UKR 516 Medieval Ukrainian Literature
★3 (either term, 3-0-0). Ukrainian literature from the fourteenth through the seventeenth centuries.

UKR 517 Ukrainian Dialectology
★3 (either term, 3-0-0).

UKR 531 History of Ukrainian Folklore Studies
★3 (either term, 3-0-0).

UKR 532 Ukrainian Folklore in Canada
★3 (either term, 3-0-0).

UKR 631 Ukrainian Folklore Theory Studies
★3 (either term, 3-0-0).

UKR 632 Ukrainian Folklore Research Methods
★3 (either term, 3-0-0).

UKR 641 Studies in Ukrainian Poetry
★3 (either term, 3-0-0).

UKR 642 Studies in Ukrainian Drama
★3 (either term, 3-0-0).

UKR 643 Studies in the Soviet Ukrainian Novel
★3 (either term, 3-0-0).

UKR 650 Topics in Ukrainian Literature
★3 (either term, 3-0-0).

UKR 660 Topics in Ukrainian Folklore
★3 (either term, 3-0-0).

UKR 696 Studies in Individual Authors
★3 (either term, 3-0-0) or ★6 (3-0-0).

UKR 699 Conference Course
★3 (either term, 3-0-0) or ★6 (3-0-0). A detailed study of a literary problem, period, or genre not dealt with in the other courses. Designed to meet the needs of individual Honors or Graduate students.

204.78 Sociology

Department of Sociology
5-21 Tory Building
University of Alberta
Edmonton, Alberta T6G 2H4

204.78.1 General Information

The Department of Sociology offers programs leading to the degrees of Master of Arts and Doctor of Philosophy. Four MA programs are available: (1) a thesis-based MA; (2) a course-based MA; (3) a course-based MA in corrections; and (4) a thesis-based MA in demography.

Three PhD programs are available: (1) a PhD in Sociology emphasizing the core areas of the discipline (social psychology, social organization, theory, and methods) in addition to a specialization of interest to the student; (2) a PhD in demography; and (3) a PhD in Sociology emphasizing health care planning and evaluation and administered jointly by the Departments of Sociology and Health Services Administration and Community Medicine.

Application forms for admission and further information on the above programs may be obtained by writing the Graduate Student Coordinator, Department of Sociology.

Entrance Requirements:

The Department's minimum admission requirements are a four-year undergraduate degree (or equivalent) with an average of 7.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2).

Financial Assistance:

A number of graduate assistantships are available. Stipends vary from $8,230 to $11, 300 for the eight-month academic year depending upon qualifications. Students may also qualify for a summer stipend of approximately $1,000/month for a two-month period. Application for assistantships should be made to the Graduate Student Coordinator. Other scholarships and fellowships are available through the Student Awards Office.

204.78.2 The Degree of MA

Program Requirements:

Required courses depend on the area of specialization and the undergraduate background of the student. Normally the thesis-based MA program consists of 21 units of course weight (including core courses in statistics, methods

theory, social psychology, and social organization) and a thesis. The course-based MA program normally consists of 33 units of course weight (including core courses in statistics, methods, theory, social psychology, and social organization) and a project equivalent to three units of course weight. The MA in demography requires 21 units of course weight (including core courses in statistics, methods, theory, social psychology, social organization, demographic analysis, and two of fertility, mortality, and migration) and a thesis. The MA in corrections offers a choice of two tracks: one in correctional administration and the other in correctional counselling. Each track requires 27 units of course weight, a project equivalent to three units of course weight, and, depending on the student's background, may require two full-time field placements of four months each.

There is no language requirement for the MA.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary with the individual candidate; however, a minimum of two years is normally required.

204.78.3 The Degree of PhD

Program Requirements:

The PhD program normally consists of 18 units of course weight. Nine of the units of course weight must consist of statistics, methodology, and sociological theory, all at the 600-level. One pass-fail seminar in teaching and professional skills is required. Students must also complete three comprehensive examinations (in the areas of social psychology, social organization, and a specialization), and prepare and defend a thesis on an approved topic. The PhD program in Health Services Studies requires, in addition to the above, four months of field residency and four months of guided health services studies experience. In this program, the student's specialization comprehensive examination will be in the area of health services studies. The PhD program in demography normally consists of 27 units of course weight, one pass-fail seminar in teaching and professional skills, three comprehensive examinations (in technical demography, substantive demography, social organization or social psychology) and the preparation and defence of a thesis on an approved topic.

No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of three years is normally required.

204.78.4 Graduate Courses

THES 900 Thesis
THES 999 Thesis
SOC 900 ★3 Directed Research Project

SOC 503 Conference Course in Sociology for Graduate Students
★3 (first term, 3-0-0).

SOC 504 Conference Course in Sociology for Graduate Students
★3 (second term, 3-0-0).

SOC 509 Multi-Variable Sociological Analysis
★3 (either term, 3-0-2). Prerequisite: SOC 210 and 315. Note: Not to be taken by students with credit in SOC 411 or 410.

SOC 514 Evaluation Research
★3 (either term, 3-0-0). Prerequisite: SOC 410.

SOC 515 Quantitative Methods in Social Research
★3 (either term, 3-0-2). Prerequisite: SOC 210 and 315 or equivalent. Note: Not to be taken by students with credit in SOC 412 or 417.

SOC 518 Qualitative Methods in Social Research
★3 (either term, 3-0-2). Prerequisite: SOC 210 and 315 or equivalent. Note: Not to be taken by students with credit in SOC 414 or 418.

SOC 519 Comparative and Historical Methods in Sociological Research
★3 (either term, 3-0-2). Prerequisite: SOC 210 and 315 or equivalent. Note: Not to be taken by students with credit in SOC 419.

SOC 521 Seminar in Theories of Deviance
★3 (first term, 0-3s-0).

SOC 522 Selected Topics in Deviance and Social Control
★3 (second term, 3-0-0).

SOC 523 Criminal Justice in the Community
★2 (1-0-0). Prerequisite: Consent of department. Note: Restricted to MA (Corrections) students.

SOC 524 Field Placement in Criminal Justice
★6 (either term, 0-40c-0). Prerequisite: Consent of department. Note: Restricted to MA(Corrections) students.

SOC 525 Seminar in Criminal Justice Administration
★3 (either term, 0-3s-0).

SOC 526 Seminar in Criminological Theory
★3 (either term, 0-3s-0).

SOC 527 Seminar in Correctional Theory
★3 (either term, 0-3s-0).

SOC 531 Seminar in the History of Sociological Thought
★3 (either term, 0-3s-0).

SOC 532 Seminar in Theory Construction
★3 (either term, 0-3s-0).

SOC 533 Logic of Sociological Inquiry
★3 (either term, 3-0-0).

SOC 534 Contemporary Sociological Concepts
★3 (either term, 3-0-0).

SOC 535 Seminar in Contemporary Sociological Theory
★3 (either term, 0-3s-0). Prerequisite: SOC 333.

SOC 537 Seminar in the Sociology of Knowledge
★3 (either term, 0-3s-0).

SOC 540 Seminar in Social Psychology
★3 (either term, 0-3s-0). Prerequisite: SOC 241.

SOC 541 Seminar in Symbolic Behavior
★3 (either term, 0-3s-0).

SOC 542 Experimental Social Psychology
★3 (either term, 3-0-2).

SOC 543 Seminar in Mass Phenomena
★3 (either term, 0-3s-0).

SOC 544 Seminar in Socialization Processes
★3 (either term, 0-3s-0).

SOC 550 Historical Demography
★3 (either term, 3-0-0).

SOC 551 Seminar in Demography
★3 (either term, 0-3s-0).

SOC 552 Mortality and Morbidity
★3 (either term, 3-0-0). Prerequisite: SOC 251. Note: Not to be taken by students with credit in SOC 452.

SOC 553 Seminar in Urban Society
★3 (either term, 0-3s-0).

SOC 554 Migration
★3 (either term, 3-0-0). Prerequisite: SOC 251. Note: Not to be taken by students with credit in SOC 455.

SOC 555 Human Ecology
★3 (either term, 3-0-0).

SOC 556 Selected Topics in Environmental Sociology
★3 (either term, 3-0-0).

SOC 557 Fertility and Family Planning
★3 (either term, 3-0-0). Prerequisite: SOC 251. Note: Not to be taken by students with credit in SOC 451.

SOC 558 Techniques of Demographic Analysis
★3 (either term, 3-0-0). Prerequisite: SOC 251. Note: Not to be taken by students with credit in SOC 450.

SOC 560 Seminar in Social Organization
★3 (either term, 0-3s-0). Prerequisite: SOC 251. Note: Formerly SOC 561. Not to be taken by students with credit in SOC 561.

SOC 562 Seminar in Social Class
★3 (either term, 0-3s-0).

SOC 565 Seminar in Work
★3 (either term, 0-3s-0).

SOC 566 Seminar in Formal and Complex Organization
★3 (either term, 0-3s-0).

SOC 568 Seminar in Ethnic and Minority Relations
★3 (either term, 0-3s-0).

SOC 570 Seminar in Family Theory
★3 (either term, 0-3s-0).

SOC 571 Seminar in Issues and Techniques in Family Theory Construction
★3 (either term, 0-3s-0).

SOC 572 Selected Topics in Canadian Society
★3 (either term, 0-3s-0).

SOC 575 Seminar in Aging and Age Differentiation
★3 (either term, 0-3s-0).

SOC 576 Seminar in Sociology of Religion
★3 (either term, 0-3s-0).

SOC 577 Seminar in Sex Stratification and Sex Differentiation
★3 (either term, 0-3s-0).

SOC 578 Seminar in Marital and Family Interaction
★3 (either term, 0-3s-0).

SOC 580 Sociology of Development and Underdevelopment
★3 (either term, 0-3s-0).

SOC 583 Advanced Social Psychology of Health and Illness
★3 (either term, 3-0-0).

SOC 584 Advanced Social Organization of Health Care
★3 (either term, 3-0-0).

SOC 593 Seminar in Political Sociology
★3 (either term, 0-3s-0).

SOC 603 Conference Course
★3 (first term, 3-0-0).

SOC 604 Conference Course
★3 (second term, 3-0-0).

SOC 605 Seminar in Teaching and Professional Skills
★3 (either term, 0-3s-0).

SOC 609 Multivariate Analysis
★3 (first term, 3-0-0). Prerequisite: SOC 509 and 515 or 410 and 417 or equivalent. Note: Formerly SOC 510. Not to be taken by students with credit in SOC 511 or 510.

SOC 610 Selected Topics in Social Statistics
★3 (either term, 0-3s-0). Prerequisite: SOC 510 or 609 or equivalent.

SOC 615 Advanced Methods of Sociological Inquiry
★3 (either term, 0-3s-0). Prerequisite: SOC 410 and 417 or 509 and 515 or equivalent. Note: Formerly SOC 517. Not to be taken by students with credit in SOC 512 or 517.

SOC 616 Structural Equation Modeling with LISREL
★3 (either term, 3-0-2). Prerequisite: SOC 609.

SOC 617 Selected Topics in Sociological Research Methods
★3 (either term, 0-3s-0). Prerequisite: SOC 517 or 615 or equivalent.

SOC 624 Advanced Field Placement in Criminal Justice
★6 (either term, 0-40c-0). Prerequisite: Consent of department. Note: Restricted to MA (Corrections) students.

SOC 631 Seminar in Advanced Sociological Theory
★3 (either term, 0-3s-0).

SOC 633 Mathematical Sociology
★3 (either term, 0-3s-0).

SOC 641 Selected Topics in Social Psychology
★3 (either term, 0-3s-0).

SOC 642 Experimental Small Group Research
★3 (either term, 0-3s-0).

SOC 652 Seminar in Population, Social and Economic Development
★3 (either term, 0-3s-0).

INT D 653 Regionalism and Urban Planning
★3 (either term, 3-0-0).

SOC 661 Seminar in the Sociological Profession
★2 (either term, 0-1s-0).

SOC 670 Seminar in Advanced Topics in Family Theory and Research
★3 (either term, 0-3s-0).

SOC 682 Selected Topics in Medical Sociology
★3 (either term, 0-3s-0).

204.79 Soil Science

Department of Soil Science
442 Earth Sciences Building
University of Alberta
Edmonton, Alberta T6G 2E3

204.79.1 General Information

The Department of Soil Science offers programs leading to the Master of Agriculture, Master of Science, and Doctor of Philosophy degrees.

Fields of interest in the Department of Soil Science include: genesis, classification (taxonomic and interpretive), physics, chemistry, mineralogy, nutrient cycling, biology, remote sensing, fertility, management, conservation and agroecosystem modelling.

All graduates receiving an MAg, MSc or PhD specializing in soil science from the University of Alberta must have obtained (before or during their graduate program) a minimum level of competence in the following four areas of soil science: soil genesis and classification (SOILS 420), soil physics (SOILS 440), soil mineralogy/

chemistry (SOILS 415 or 450) and soil biology (SOILS 330 or 430). Candidates for all graduate degrees are required to participate in SOILS 600 and the Department seminar.

Details regarding program requirements and availability of financial assistance may be obtained from the Graduate Coordinator, Department of Soil Science.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with a strong background in one of the basic sciences and an average of 7.0 in the last two years of full-time undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution. To remain in a graduate program in soil science a student must maintain a minimum grade point average of 7.0, with no grade less than 6.0.

In addition to the above, all non-Canadian applicants for whom English is not their native language must pass, with a minimum score of 550, the Test of English as a Foreign Language (TOEFL) before formal admission is granted (see §202.2.2).

Financial Assistance:

A limited number of teaching assistantships is usually available to qualified individuals; however, they are not awarded until commencement of each academic year. Research grant-funded assistantships are usually available to students with high academic standing.

204.79.2 The Degree of MAg

Program Requirements:

Requirements for the Master of Agriculture degree are the equivalent of 30 units of course weight in graduate-level courses, SOILS 600, plus a project equivalent in weight to at least three units of course weight. Competence in the four areas listed above must be met if not covered in previous degree programs.

There is no language requirement for the degree of MAg.

The minimum residence requirement is two four-month terms of full-time attendance.

The applicant is normally expected to have completed three years of satisfactory professional experience.

Length of Program:

Normally, a minimum of 12 months of study and research is needed to complete the requirements for the degree.

204.79.3 The Degree of MSc

Program Requirements:

Requirements for the Master of Science degree are at least 18 units of course weight plus SOILS 600 and thesis. Competence in the four areas listed above must be met if not covered in previous degree programs.

There is no language requirement for the degree of MSc.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the program will vary with the individual candidate; however, a minimum of two years is normally required.

204.79.4 The Degree of PhD

Program Requirements:

There are no fixed course requirements, except SOILS 600, for the PhD in soil science. The candidate and supervisory committee will select courses as may be necessary to enable the candidate to carry out an acceptable research program. Competence in the four areas listed above must be met if not covered in previous degree programs. Preparation and defence of a thesis on an approved topic is the main requirement.

There is no language requirement for the degree of PhD.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, four years is normally required to complete the program.

204.79.5 Undergraduate Courses

The following may be taken for graduate credit:

SOILS 401 Research Project
★3 (either term, 0-3s-0). Prerequisite: Consent of Department Chair.

SOILS 402 Research Project
★6 (0-3s-0). Prerequisite: Consent of Department Chair.

SOILS 415 Soil Mineralogy
★3 (second term, 3-0-3). Prerequisite: SOILS 310.

SOILS 420 Soil Formation and Classification
★3 (first term, 3-0-3). Prerequisite: SOILS 310 or any 300-level earth science course.

SOILS 425 Soil and Land Evaluation
★3 (second term, 3-0-3). Prerequisite: SOILS 420.

SOILS 430 Soil Microbiology and Biochemistry
★3 (second term, 3-0-3). Prerequisite: SOILS 310 or any 300-level course in the biological sciences.

SOILS 440 Soil Physics
★3 (first term, 3-0-3). Prerequisite: SOILS 310 or completion of 60 units of course weight of university science courses.

SOILS 450 Soil Chemistry
★3 (first term, 3-0-3). Prerequisite: SOILS 310.

SOILS 460 Soil Fertility
★3 (second term, 3-0-3). Prerequisite: SOILS 310.

SOILS 461 Agroecosystem Simulation
★3 (second term, 3-0-3). Prerequisite: BOT 240, SOILS 310 and one other Soils course.

SOILS 470 Land Drainage
★3 (second term, 3-0-0). Prerequisite: One of AG EN 308 or 313, GEOL 588, SOILS 440. (Offered jointly with the Department of Agricultural Engineering). Offered in alternate years.

SOILS 485 Soil Reclamation and Conservation
★3 (first term, 2-4s-0). Prerequisite: Four (4) Soil Science areas beyond SOILS 310.

204.79.6 Graduate Courses

Except for SOILS 600, the following courses are offered only when justified by enrollment, normally in alternate years.

SOILS 900 ★3 Directed Research Project

SOILS 501 Individual Research Project
★3 (either term, 0-3s-0). A topic of interest to the student and instructor(s) is selected for detailed study. The project may involve library research, field or laboratory work, computer studies of soil data, map work, etc. Prerequisite: Consent of Department Chair.

SOILS 502 Individual Research Project
★6 (0-3s-0). A topic of interest to the student and instructor(s) is selected for detailed study. The project may involve library research, field or laboratory work, computer studies of soil data, map work, etc. Prerequisite: Consent of Department Chair.

SOILS 505 Special Topics in Soil Science
★3 (either term, 3-0-0). Prerequisite: Consent of Department.

SOILS 510 Advanced Remote Sensing
★3 (second term, 3-0-3). A quantitative approach to remote sensing for land resource studies; specialized techniques for hard copy and digital image analyses; remote sensing and soil-vegetation-landscape models; literature review and laboratory project on a selected problem. Prerequisite: FOR 410.

SOILS 520 Advanced Soil Classification
★3 (second term, 3-0-3). Systematics of soil classification throughout the world with special emphasis on pedogenesis, classification, distribution and use of soils outside of Canada. Laboratory consists of a minimum 10-day field trip normally scheduled immediately following the final examination period and conducted regionally in North America. Costs of lodging and meals to be borne by students. Prerequisite: SOILS 420.

SOILS 530 Advanced Soil Ecology
★3 (first term, 3-0-3). Ecological approach to studying plant, microbial, and faunal interactions. Role of microorganisms and fauna in energy flow and nutrient cycling in soil. Prerequisite: SOILS 430.

SOILS 535 Advanced Soil Biochemistry
★3 (second term, 1-2s-3). A lecture and seminar course on special topics from the recent literature in soil biochemistry; intensive literature review and laboratory project on some aspect of the topics discussed. Prerequisite: SOILS 430.

SOILS 540 Advanced Soil Physics
★3 (second term, 3-0-3). Fundamental equations governing the flow of fluids through porous media; examination of solution techniques including physical and analogue models, analytical and numerical techniques with application to such physical processes as infiltration, moisture redistribution, drainage, and evaporation. Prerequisite: An introductory course in differential calculus and a course in one of the following: soil physics, soil mechanics, or hydrogeology.

SOILS 550 Advanced Soil Chemistry
★3 (second term, 3-0-3). More complex chemical reac tions and properties of soil systems. Prerequisite: Con sent of instructor.

SOILS 555 Advanced Soil Mineralogy and Micromorphology
★3 (second term, 3-0-3). Concepts and methods i the study of soil mineral reactions including applica tion of thermodynamics to mineral weathering an secondary mineral formation, principles of fabri analysis, and instrumental methods in mineralogica research. Prerequisite: SOILS 415 and 420.

SOILS 600 Seminar
★0 (either term, 0-1s-0). Provides a forum in whic graduate students learn to prepare and present profes sional seminars or papers at both general and technica levels. Attendance is expected of all graduate student 'in residence.' Students will participate actively as pre senters, chairs, discussants and evaluators. Studer participation is assessed as credit/no credit at the end o their programs.

SOILS 620 Experimental Pedology
★3 (second term, 3-0-3). A review of the more importan classical research contributions in the area of exper mental pedology. The scientific method as applied t research in experimental pedology. Prerequisites: SOIL 520, 535, and 555.

204.80 Speech Pathology and Audiology

Department of Speech Pathology and Audiology
400 Garneau Professional Centre
University of Alberta
Edmonton, Alberta T6G 0T2

204.80.1 General Information

The Department of Speech Pathology and Audiolog offers graduate work leading to the Master of Scienc degree in Speech-Language Pathology and, commencin in 1992, the Master of Speech-Language Pathology degree

The MSc program is designed to provide speech language clinicians with the research skills needed t study the etiology, prevention, diagnosis, and remediatio of speech, language, and hearing disorders. Students wi undertake research to enhance their abilities to tak leadership roles in academic, clinical, and laborator settings.

The MSLP program is designed to develo competencies in the preventions, evaluation, treatmen and management of articulation, language, fluency, voice and resonance disorders as well as in the fundamenta practices of audiology, and will commence with the fa 1992-93 term. This course-based master's program i designed to provide students with the academic an clinical education required for certification by provincia and national professional associations.

The Department maintains laboratory, instrumentation and clinical facilities for a wide range of research interest in stuttering, motor speech disorders, voice, languag development and disorders, craniofacial anomalies, hearin disorders, and clinical supervision.

Entrance Requirements:

The minimum entrance requirements include a fou year baccalaureate degree with a grade point average o at least 6.5 in the courses taken during the last 2 years o university work at the University of Alberta or equivalen qualifications from another academic institution. Student who use the TOEFL exam to fulfill the Faculty of Graduat Studies and Research's English language proficienc requirement must present a minimum score of 600. N language other than English is required. The period o residency is two, four-month terms of full-time attendanc during the regular session at the University of Alberta Applicants must also submit a statement of their researc interests, three letters of recommendation, and the result of the Graduate Records Examination (verbal, quantitative and analytical subtests). No minimum cut-off will be use to evaluate GRE scores, since the scores will be used i conjunction with other indicators of student potentia Personal interviews may be used if deemed necessary i making final selections. Specific program requirement will vary depending upon the academic background of th students. The deadline for submitting applications fo winter session admission is March 15.

Financial Assistance:

A limited number of teaching and researc assistantships may be available within the Departmen Applications for financial assistance should be submitte to the Department Chair before March 15. Students shoul contact the University Student Awards Office and th Alberta Department of Social Services and Communit Health for information on other possible sources of fundin

204.80.2 The Degree of MSc

Program Requirements:

Requirements for the MSc degree include an undergraduate degree in Speech-language Pathology at the University of Alberta, or equivalent qualifications from another academic institution, and successful completion of a minimum of 24 units of course weight. An advanced course of three units of course weight in research design and/or statistics, and the completion of a satisfactory thesis. Fifteen units of course weight of the required 24 must be taken within the Department and will include SPA 500. The other courses may be chosen in consultation with the student's academic adviser and must include a course in research design and/or statistics.

Length of Program:

The length of program and the time required to complete the program will vary with the individual candidate but cannot exceed the statutory limits of the Faculty of Graduate Studies and Research as set out in §202.13. A minimum of two academic years normally will be required to complete the MSc degree in Speech Pathology.

204.80.3 The Degree of MSLP to Commence September 1992

Program Requirements:

The minimum entrance requirements include a four year baccalaureate degree with a grade point average of at least 6.5 in the courses taken during the last two years of university work at the University of Alberta or equivalent qualifications from another academic institution. Requirements for the MSLP will normally include successful completion of a minimum of 48 units of course weight, plus a research project equivalent to six units of course weight, and a minimum of 300 supervised clinical hours. The prerequisite courses will typically be a portion of a more extensive undergraduate knowledge base which is relevant to graduate study in speech-language pathology. The program requirements will ensure that students meet standards required for membership/certification in provincial and national professional associations. Prerequisite courses and the required program of study may be obtained from the Department of Speech Pathology and Audiology. Program requirements will be reduced or modified for students holding an undergraduate degree in Speech-language Pathology from the University of Alberta or equivalent qualifications from another academic institution.

Length of Program

The length of program and the time required to complete the program will vary with the individual candidate but cannot exceed the statutory limits of the Faculty of Graduate Studies and Research as set out in §202.13. A minimum of two calendar years of 24 months will normally be required to complete the program.

204.80.4 MSc Graduate Courses

THES 900 Thesis
THES 999 Thesis

REHAB 500 Research Seminar
★3 (either term, 0-3s-0). The examination, evaluation and preparation of the research report. Students will discuss critically various aspects including the selection of the problem, the review of the literature, the research hypothesis, the collection and analysis of the data, and the significance of the research.

SPA 500 Introduction to Graduate Research
★3 (first term, 3-0-0). Investigation of research strategies in speech pathology and audiology, analyses of completed and proposed research, initial thesis planning. Normally taken during student's first term.

SPA 559 Instrumental Measurement and Analysis
★4 (either term, 3-0-3). Advanced study of laboratory methods in speech acoustics and physiology. Prerequisite: SPA 503 or Department consent. Formerly SPA 506.

SPA 561 Methods of Data Analysis
★3 (either term, 0-3s-0). The role of statistics in speech pathology and audiology research, including study of basic concepts related to selection of analysis methods for particular data sets and interpretation of results. Prerequisite: Introductory statistics course and Department consent. Formerly SPA 502.

SPA 563 Behavioral Measurement and Analysis in Speech-Language Pathology
★3 (either term, 0-3s-0). Consideration of the evaluation process in speech pathology: study of systematic test procedures, measurement, and analysis. Prerequisite: Department consent. Formerly SPA 505.

SPA 565 Supervision of Speech-Language Pathology
★3 (either term, 0-3s-0). An introduction to the supervisory process as a quantifiable, goal-oriented component of the clinical process: including relevant information from the literature in speech pathology, education and counselling. Prerequisite: Department consent. Formerly SPA 508.

SPA 567 Aging and Communication
★3 (either term, 0-3s-0). Advanced interdisciplinary study of the research literature on physiological, psychological and sociological aspects of aging and their impact on speech, hearing, and language. Topical focus may vary. Prerequisite: Department consent. Formerly SPA 513.

SPA 569 Research in Fluency Disorders
★3 (either term, 0-3s-0). A study of current research in fluency disorders. Students will research theoretical issues in assessment or therapy. Prerequisite: Department consent. Formerly SPA 515.

SPA 571 Issues on Phonology and Phonological Disorders
★3 (either term, 0-3s-0). Advanced study of current literature on phonological development and disorders. Topical focus may vary. Prerequisite: Department consent. Formerly SPA 523.

SPA 573 Issues in Child Language
★3 (either term, 0-3s-0). Advanced study of selected topics in normal language acquisition. Topical focus may vary. Prerequisite: Department consent. Formerly SPA 523.

SPA 575 Language Disorders: Children
★3 (either term, 0-3s-0). Advanced study of current literature on specific topic areas in the evaluation and management of children with acquired language disorders. Topical focus may vary. Prerequisite: Department consent. Formerly SPA 525.

SPA 577 Language Disorders: Adults
★3 (either term, 0-3s-0). Advanced study of research literature on acquired aphasia and related language disorders. Topical focus may vary. Prerequisite: Department consent.

SPA 579 Dyspraxia and Dysarthria
★3 (either term, 0-3s-0). Advanced study of the research literature on congenital and acquired disorders of motor speech programming and execution. Topical focus may vary. Prerequisite: SPA 509 or Department consent. Formerly SPA 531.

SPA 581 Craniofacial Anomalies
★3 (either term, 0-3s-0). Advanced study of recent research on the evaluation and management of communication disorders associated with craniofacial anomalies. Prerequisite or corequisite: SPA 559 or Department consent. Formerly SPA 533.

SPA 583 Disorders of Phonation
★3 (either term, 0-3s-0). Advanced study of current evaluation and management techniques for disorders of phonation and resonance. Prerequisite or corequisite: SPA 559 or Department consent. Formerly SPA 535.

SPA 585 Diagnostic Trends in Audiology
★3 (either term, 0-3s-0). Current research issues and developments in the differential diagnosis of hearing loss. Prerequisite: SPA 514, SPA 536, or Department consent. Formerly SPA 541.

SPA 587 Habilitative Trends in Audiology
★3 (either term, 0-3s-0). Current research issues and developments in amplification systems and communication programs for the congenitally hearing impaired population. Topical focus may vary. Prerequisite: SPA 514, SPA 534, SPA 538, or Department consent. Formerly SPA 551.

SPA 589 Rehabilitative Trends in Audiology
★3 (either term, 0-3s-0). Study of recent research trends in the evaluation and rehabilitation of individuals with acquired hearing impairments. Prerequisite: Department consent. Formerly SPA 553.

SPA 591 Special Topics
★3 (either term, 0-3s-0). Special seminars. Content will vary from year to year. Topics will be announced prior to registration period. The student's transcript will carry a title descriptive of the content. May be repeated. Prerequisite: Department consent. Formerly SPA 570.

SPA 598 Directed Individual Reading and Research
★3 (either term, 0-3s-0). May be repeated. Prerequisite: Department consent.

204.80.5 Proposed MSLP Graduate Courses

SPA 900 ★6 Directed Research Project

REHAB 500 Research Seminar
★3 (either term, 0-3s-0). The examination, evaluation and preparation of the research report. Students will discuss critically various aspects including the selection of the problem, the review of the literature, the research hypothesis, the collection and analysis of the data, and the significance of the research.

SPA 503 Speech and Hearing Science
★3 (either term, 3-0-1). Study of the principles of acoustics and aeromechanics, sound measurement, hearing physiology, speech perception, the acoustical theories of vowel and consonant production, and the physiology of respiration, phonation, articulation and resonance in speech production. Prerequisite or corequisite: ANAT 412 or equivalent.

SPA 507 Phonological Disorders
★3 (either term, 3-0-2). In-depth study of the nature, assessment and remediation of articulatory/phonological disorders according to various theoretical models. Emphasis will be placed on phonologically based clinical approaches including phonological process analysis and generative phonology. Practical experience in assessment and remediation will be provided through clinical observation and laboratory experiences.

SPA 509 Clinical Dysarthria and Dyspraxia
★3 (either term, 3-0-1). Study of dysarthria and dyspraxia (congenital and acquired) including the nature of their underlying neuropathologies, methods of instrumental and perceptual assessment, and systematic instrumental and behavioral management strategies. Students will develop their understanding of the course material via a series of clinical problem solving and treatment planning exercises. Prerequisite: ANAT 412 or equivalent and SPA 503.

SPA 511 Assessment of Children with Language Disorders
★3 (first term, 3-0-2). A comprehensive study of the assessment and identification of children with language disorders. A review of normal language development provides a comparison for deviant language development. Assessment procedures involve language test administration and interpretation. Discussion of research findings highlights disordered language behaviors associated with such problems as mental retardation, emotional problems, and learning disabilities. The laboratory provides experience in administrating a variety of language tests.

SPA 514 Diagnostic Audiology I
★3 (either term, 3-0-2). Study of foundation principles and instrumentation for pure tone and immittance testing. Emphasis is on calibration, evaluation and test result interpretation. Laboratory experience in test administration is provided. Prerequisite or corequisite: SPA 503 and ANAT 412 or equivalent.

SPA 516 Diagnosis and Appraisal of Communication Disorders
★3 (either term, 3-0-1). A study of the principles underlying the evaluative and management procedures in communication disorders. History taking, report writing, recording observations, analysis of tests relevant to the clinical process and test procedure administration will be covered.

SPA 518 Remediation of Child Language Disorders
★3 (second term, 3-0-2). A study of the theoretical models of intervention and clinical application in remediating children's disordered language patterns. Specific attention focused toward commercial and clinician-generated programs that serve these various theoretical frameworks. Discussion of language goals, intervention strategies and accountability measures that serve to guide the therapeutic process and determine treatment effectiveness. The laboratory provides opportunity to observe therapy and design sample language therapy units. Prerequisite: SPA 511.

SPA 520 Clinical Aphasiology
★3 (either term, 3-0-1). Study of acquired aphasia including the nature of the underlying neuropathologies, methods of differential diagnosis and comprehensive assessment, and clinically-pertinent behavioral management strategies. Students will develop their understanding of the course material via a series of clinical problem solving and treatment planning exercises.

SPA 522 Professional Topics in Speech-Language Pathology
★3 (either term, 3-0-0). An orientation to topics critical to effective functioning in the professional community. Topics will include ethics, relationships with allied professionals, administration strategies, and professional networking. Flexibility in course topics will accommodate new issues arising from continued development.

SPA 524 Introduction to Clinical Practicum
★2 (either term, 0-2c-0). Credit. Practical application of clinical procedures under direct supervision. Normally, students will possess an academic background enabling them to assume direct treatment responsibilities with children and adults having disorders of articulation, language, and/or motor speech. A minimum of 25 hours will be accrued.

SPA 526 Voice Disorders
★3 (either term, 3-0-1). A study of etiologic factors involved in voice and resonance disorders and the use of that information to diagnose and provide rehabilitation. Research review relevant to rehabilitation and etiology will be discussed. Prerequisite: ANAT 412 or equivalent.

SPA 528 Stuttering
★3 (either term, 3-0-1). A study of the development, nature and treatment of stuttering with particular emphasis on management strategies.

SPA 530 Craniofacial Anomalies and Communication Disorders
★3 (either term, 3-0-0). Evaluation of recent research important to understanding etiology and physical management of craniofacial anomalies as those procedures relate to and affect resonance, articulation, voice and hearing development. The course will also include observation of diagnostic procedures, surgery and prosthetic management. Prerequisite: ANAT 412 or equivalent.

SPA 532 Advanced Clinical Practicum
★3 (either term, 0-5c-0). Credit. Supervised advanced clinical practicum with a variety of communication disorders. Normally arranged as a part-time commitment in an approved Edmonton area clinical service facility. A minimum of 55 hours will be accrued. Prerequisite: SPA 524.

SPA 533 Advanced Clinical Practicum
★3 (either term, 0-5c-0). Credit. Supervised advanced clinical practicum with a variety of communication disorder.s Normally arranged as a part-time commitment in an approved Edmonton area clinical service facility. A minimum of 55 hours will be accrued. Prerequisite: SPA 532.

SPA 534 Aural Rehabilitation
★3 (either term, 3-0-0). The course provides an in-depth consideration of the auditory communicative problems associated with adult onset hearing loss. Hearing aids and group amplification systems are considered. Prerequisite: ANAT 412 or equivalent; SPA 503; SPA 514.

SPA 536 Clinical Audiology for Speech-Language Pathologists
★3 (either term, 3-0-2). Overview examination of audiologic site-of-lesion tests including speech audiometry, test of recruitment, tone decay tests, vestibular tests and evoked response audiometry. Applications are made of diagnostic audiology tests to special populations. Personal and group amplification systems are considered. Prerequisite: SPA 514.

SPA 538 Habilitative Audiology
★3 (either term, 3-0-2). Consideration of the communication needs of the congenitally hearing impaired population. An intensive study of auditory-oral and manual methods of communication. Experience is provided in administration and interpretation of a variety of diagnostic tests. Assistive listening devices for the hearing impaired are examined. Laboratories provide opportunity for the development of manual communication skills. Prerequisite or corequisite: SPA 514; SPA 534.

SPA 540 Clinical Internship
★3 (13 weeks). Credit. Full-time supervised clinical practice normally for a period of 13 weeks in an approved clinical service facility. Students will have completed all academic course work and will be prepared to work with a broad range of communication disorders under reduced supervision. A minimum of 165 hours will be accrued.

204.81 Statistics and Applied Probability

Department of Statistics and Applied Probability
434 Central Academic Building
University of Alberta
Edmonton, Alberta T6G 2G1

204.81.1 General Information

The Department of Statistics and Applied Probability offers graduate programs leading to the degrees of Master of Science and Doctor of Philosophy in statistics and/or probability.

For graduate work in the Department a strong background in mathematics and/or statistics is required. Prospective graduate students should consult both the Chair of the Department and the Graduate Coordinator with regard to the facilities available and the background for the field (including any field of application) in which they are particularly interested.

Entrance Requirements:

The Department's minimum admission requirements are an undergraduate degree with an average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2). Requirements for admission into a specific program are outlined below, under the appropriate degree heading.

Financial Assistance:

Graduate assistantships are available for candidates working toward a higher degree. They are awarded on the basis of merit and involve at most 12 hours of work per week, including teaching, class preparation and working time. Research grant assistantships are also available.

204.81.2 The Degree of MSc

Candidates for the MSc must have a BSc (Honors) degree or equivalent from a recognized university, with a strong background in mathematics and/or statistics. Candidates holding specialization bachelor's degrees will be required to take additional courses either concurrently with their graduate program or prior to admission as an MSc candidate.

Program Requirements:

The requirements for the MSc can be met either by completing graduate courses with a total of 18 units of course weight and a thesis, or by completing graduate courses with a total of 24 units of course weight and a project equivalent to three units of course weight. Students normally select one of the two programs after their first or second term following admission. Students with a grade point average of less than 7 on courses taken toward the MSc degree will normally be required to select the course-based program. Courses will ordinarily be taken in the Departments of Statistics and Applied Probability, Mathematics, or Computing Science.

There is no language requirement for the MSc.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The MSc program will normally be completed in 20 months of full-time attendance at the University of Alberta, but it can be done in a minimum of one year.

204.81.3 The Degree of PhD

To be admitted as a provisional candidate for the PhD a student must normally hold the equivalent of an MSc degree in statistics or mathematics from the University of Alberta. In addition to the examinations called for by the general regulations, a qualifying examination must be taken at the end of the first year as a provisional candidate. The principal requirement for the PhD is a substantial contribution to knowledge, embodied in a thesis.

Program Requirements:

Except in very special cases, every PhD student will be required to take a minimum of 42 units of course weight in graduate courses or equivalent after the BSc (Honors) degree.

Each student, on admission to graduate work in the Department, will have an advisery committee. The committee will determine, supervise, and modify, if necessary, the student's program of study and research. In order to qualify for a degree, the student must satisfy the departmental requirements described above; the student must also satisfactorily complete the program set up for the student by the advisery committee.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

Candidates will spend at least two years in advanced study and research after the PhD qualifying examination. The time normally required to complete the PhD degree is four years after the BSc (Honors) degree.

204.81.4 Graduate Courses

The following table lists renumbered courses effective 1990-91:

Old	New	Old	New
STAT 566	STAT 666	STAT 579	STAT 679
STAT 567	STAT 667	STAT 666	STAT 766
STAT 571	STAT 671	STAT 667	STAT 767
STAT 572	STAT 672	STAT 671	STAT 771
STAT 672	STAT 772		

THES 900 Thesis
THES 999 Thesis
STAT 900 ★3 Directed Research Project

Open only to students taking the MSc non-thesis option in statistics.

STAT 501 Introduction to Graduate Statistics I
★1 (either term, 1-0-0). Selected topics as required for graduate study in Statistics.

STAT 502 Introduction to Graduate Statistics II
★1 (either term, 1-0-0). Selected topics as required for graduate study in Statistics.

STAT 558 Techniques of Statistical Analysis I
★3 (first term, 3-0-0). The contents of STAT 558 and 559 will be selected each year from such applied topics as: Sampling methods, Multi-variate Analysis, Nonparametric methods, Combinatorial methods, and Analysis of Design. Prerequisite: STAT 450 or 466 or 471 or equivalent, and consent of department.

STAT 559 Techniques of Statistical Analysis II
★3 (second term, 3-0-0). For course description see STAT 558. Prerequisite: STAT 450 or 471 or 466 or equivalent, and consent of department.

STAT 561 Sample Survey Methodology
★3 (either term, 3-0-0). Review of basic sampling schemes: simple random sampling, and stratified random sampling, and systematic sampling. Multistage sampling schemes. Estimation of nonlinear parameters: ratios, regression coefficients, and correlation coefficients. Variance estimation techniques: linearization, BRR, jackknife, and bootstrap. Selected topics: model-based estimation, regression analysis from complex survey data. Relevant computer packages. Prerequisite: STAT 361, 471.

STAT 563 Theory of Games
★3 (either term, 3-0-0). Games in normal and extended form. Methods of solution. Statistical games. Minimax strategies. Bayes solutions. Linear programming. Prerequisite: STAT 471.

STAT 568 Design and Analysis of Experiments
★3 (either term, 3-0-0). The general linear model. Fully randomized designs, one-way layout, multiple comparisons. Block designs, Latin squares. Factorial designs confounding, fractions. Nested designs, randomization restrictions. Response surface methodology. Analysis of covariance. Prerequisite: STAT 465.

STAT 569 Experimental Design
★3 (either term, 3-0-0). Latin squares. Balanced and partially balanced incomplete blocks. Nested and partially nested models. Two level factorial experiments. Confounding. Higher level factorial designs. Prerequisite: STAT 568 or equivalent.

STAT 575 Multivariate Analysis
★3 (either term, 3-0-0). Multivariate normal distribution, estimation of the mean vector and the covariance matrix. The distribution of the sample covariance matrix and the sample generalized variance, Hotelling's T2. Discriminant analysis. Some statistical applications. Prerequisite: STAT 466, 475 and MATH 227.

STAT 577 Nonparametric Inference
★3 (either term, 3-0-0). Tests for randomness. Rank tests and estimates of location: one-sample and two-sample location model. Nonparametric analysis of variance: one-way and two-way layouts. Nonparametric tests in linear regression. Multivariate location model. Prerequisite: STAT 466, 472.

STAT 578 Regression Analysis
★3 (either term, 3-0-0). Multiple linear regression, ordinary and generalized least squares, partial and multiple correlation. Regression diagnostics, collinearity, model building. Nonlinear regression. Selected topics: robust and nonparametric regression, measurement error models. Prerequisite: STAT 465.

STAT 580 Stochastic Processes
★3 (either term, 3-0-0). Elements of stochastic processes. Discrete and continuous time Markov Chains; Birth and Death processes. Branching processes. Brownian Motion. General Stationary and Markov processes. Examples. Prerequisite: STAT 471.

STAT 661 Stochastic Processes I
★3 (first term, 3-0-0).

STAT 662 Stochastic Processes II
★3 (second term, 3-0-0).

STAT 666 Theory of Point Estimation
★3 (first term, 3-0-0). Concept of decision theory. Exponential families of distributions. Unbiased, equivariant, Bayes and minimax estimation. Large sample theory, asymptotic optimality. Prerequisite: STAT 466, 471, 472.

STAT 667 Theory of Hypothesis Tests and Confidence Regions
★3 (second term, 3-0-0). Optimality criteria, unbiasedness, invariance. Prerequisite: STAT 666, 571.

STAT 671 Probability Theory I
★3 (first term, 3-0-0). Probability spaces, introduction to measure and integration, random variables, types of stochastic convergence. Distribution functions and characteristic functions. Weak limit theorems. Prerequisite: STAT 472.

STAT 672 Probability Theory II
★3 (second term, 3-0-0). Zero-one laws, three-series criterion, laws of iterated logarithm, Central Limit Problem, conditional expectation. Introduction to stochastic processes. Martingales and Markov processes. Prerequisite: STAT 671.

STAT 679 Time Series Analysis
★3 (either term, 3-0-0). The autocorrelation function and spectrum and their estimates. Linear stationary models; autoregressive, moving average, and mixed models. Linear nonstationary models; autoregressive integrated moving average models. Forecasting. Model identification and estimation. Spectral analysis. Prerequisite: STAT 466 or equivalent.

STAT 766 Topics in Statistics I
★3 (first term, 3-0-0).

STAT 767 Topics in Statistics II
★3 (second term, 3-0-0).

STAT 771 Topics in Probability I
★3 (first term, 3-0-0).

STAT 772 Topics in Probability II
★3 (second term, 3-0-0).

204.82 Surgery

Department of Surgery
2D1.02 MacKenzie Health Sciences Centre
University of Alberta
Edmonton, Alberta T6G 2B7

204.82.1 General Information

The Department offers research facilities in the Surgical Medical Research Institute and the Clinical Research Building for graduate students who wish to register for the degree of MSc or PhD in experimental surgery.

The Surgical Medical Research Institute is well-equipped for all types of experimental work on animals of all sizes. The surgical research laboratories in the Clinical Research Building are well-equipped to meet the requirements for both clinical investigation and related basic studies. Special facilities are available for projects in the fields of experimental, cardiovascular, gastrointestinal, renal, and endocrine physiopathology. An adequately equipped isotope laboratory, a biochemical laboratory and electron microscope laboratory, with technical staff in these laboratories, are able to assist graduate students who wish to carry out research projects.

Inquiries should be directed to the Chair of the Department of Surgery in advance of formal application for admission to the program.

Entrance Requirements:

Normally, an MD degree will be considered an entrance requirement for the MSc program; however, consideration will be given to suitable candidates holding an appropriate Bachelor of Science degree. Applicants for the PhD program must be medical graduates or hold a master's degree. The minimum requirements include a grade-point average of 6.5 in the last two years of undergraduate work (or graduate work) at the University of Alberta, or an equivalent qualification from a recognized institution, and a TOEFL score of 550 where applicable (see §202.2.2). Applicants who are graduates of programs, including MD programs, where grades are not assigned will be assessed on an individual basis.

Financial Assistance:

Candidates are encouraged and fully supported in applying to major granting agencies for financial assistance. Limited funds are available in the Department of Surgery for the support of additional candidates.

204.82.2 The Degree of MSc

Program Requirements:

Requirements for the MSc degree include preparation and defence of a thesis based on research performed by the candidate; in addition, all candidates must include some course work specified by their supervisory committee in the program. (Normally, six to nine units of course weight are required.)

There is no language requirement for the degree of MSc.

The minimum residence requirement is one full calendar year of research.

Length of Program:

The time required to complete the MSc will vary according to the candidate's previous training and the nature of the research undertaken; however, a minimum of 12 months is normally required.

204.82.3 The Degree of PhD

Program Requirements:

Requirements for the PhD degree include preparation and defence of a thesis and successful completion of courses taken for graduate credit, as specified by the supervisory committee.

No language other than English is required for the degree.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of three years of study and research is normally required.

204.82.4 Graduate Courses

THES 900 Thesis
THES 999 Thesis

SURG 500 Experimental Surgery
★3 (second term, 0-0-3). Designed to introduce MSc and PhD candidates to basic experimental surgical procedures. Course will include: (a) surgical anatomy of laboratory animals, (b) basic surgical methods, (c) selected methods in experimental surgery. Prerequisite: Consent of department.

SURG 520 Directed Reading in Biomedical Research
★3 (2-0-0). Lecture series on research techniques in the biomedical sciences intended for students with an advanced medical background. Prerequisite: Consent of department

SURG 530 Directed Reading in Biology and Medicine
★3 (either term, 3-0-0). Reading and study of topics in biomedical research of relevance to the student's interest under direction of one or more faculty members.

SURG 600 Research Seminar
★2 (0-1s-0). A weekly series of seminars on current research is held during both terms. Graduate students must attend and make two presentations in this series.

204.83 Zoology

Department of Zoology
CW312 Biological Sciences Building
University of Alberta
Edmonton, Alberta T6G 2E9

204.83.1 General Information

The Department of Zoology has facilities to educate students for the Master of Science and Doctor of Philosophy degrees.

Particular emphasis is laid upon ecology, physiology, limnology, invertebrate zoology, vertebrate paleontology, parasitology, endocrinology, developmental biology, marine biology, systematics and animal behavior. A reference collection of the invertebrate and vertebrate fauna of Alberta is housed in the Department. Electron microscope, histological, radio-biological, controlled environment and outdoor holding facilities are available, as well as general laboratory and collecting equipment. Three biological stations in Alberta serve as headquarters for summer field work. The University of Alberta is a member of the Western Canadian Universities Marine Biological Society and, as such, makes use of the Bamfield Marine Station on Vancouver Island as a site for zoological research.

All inquiries concerning registration and financial assistance should be directed to the Associate Chair of the Department of Zoology. Registration as a graduate student in Zoology is done in consultation with members of the Department.

Entrance Requirements:

The Department generally does not accept students with an overall grade point average of less than 7.0 in their last two undergraduate years at the University of Alberta, or an equivalent qualification from another institution. Where applicable (see calendar §202.2.2) applicants must obtain a score of 550 on the TOEFL test or 85 on the Michigan English Language Battery.

Financial Assistance:

A number of assistantships for graduate students are available. Limited funds are also available for the support of research undertaken during the summer.

204.83.2 The Degree of MSc

Program Requirements:

The MSc program consists of research leading to a thesis and two courses, one of which will be ZOOL 620. Additional courses may be required by the Supervisory Committee.

Candidates for the MSc may be required to show proficiency in one or more languages other than English at the discretion of their supervisory committees.

The minimum period of residence is two four-month terms of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the MSc will vary according to the previous training of the applicant and the nature of the research undertaken; however, a minimum of two years is normally required.

204.83.3 The Degree of PhD

Program Requirements:

A PhD program consists of research leading to a thesis and ZOOL 620. Additional courses may be required by the Supervisory Committee.

Candidates for the PhD may be required to show proficiency in one or more languages other than English at the discretion of their supervisory committees.

The minimum period of residence is two academic years of full-time attendance at the University of Alberta.

Length of Program:

The time required to complete the PhD will vary with the individual candidate; however, a minimum of three years of study and research is normally required.

204.83.4 Undergraduate Courses

The following may be taken for graduate credit:

ZOOL 305 Ichthyology
★3 (first term, 3-0-3). Prerequisite: ZOOL 200 or 225.

ZOOL 306 Ornithology
★3 (first term, 3-0-3). Prerequisite: ZOOL 200 or 226.

ZOOL 307 Herpetology
★3 (second term, 3-0-3). Prerequisite: ZOOL 200 or 226.

ZOOL 308 Mammalogy
★3 (second term, 3-0-3). Prerequisite: ZOOL 200 or 226.

ZOOL 311 Analysis of Animal Development
★3 (first term, 3-0-3). Prerequisite: BIOL 202 and ZOOL 200 or equivalent.

ZOOL 321 Mechanisms of Evolution
★3 (first term, 3-0-0). Prerequisite: GENET 197, ZOOL 231.

ZOOL 331 Animal Population Ecology
★3 (second term, 3-0-3). Prerequisite: ZOOL 231 or equivalent. Offered in alternate years.

ZOOL 332 Animal Community Ecology
★3 (second term, 3-0-3). Prerequisite: ZOOL 231 or equivalent. Offered in alternate years.

ZOOL 335 Principles of Zoological Systematics
★3 (second term, 3-0-0). Prerequisite: A 200-level biological sciences course. Offered in alternate years.

ZOOL 340 Environmental Physiology
★3 (first term, 3-0-0). Prerequisite: ZOOL 241, or 242. Offered in alternate years.

ZOOL 341 Comparative Animal Physiology I
★3 (first term, 3-0-0). Prerequisite: ZOOL 241 or 242.

ZOOL 342 Comparative Animal Physiology II
★3 (second term, 3-0-0). Prerequisite: ZOOL 241 or 242. Offered in alternate years.

ZOOL 343 Comparative Endocrinology
★3 (second term, 3-0-0). Prerequisite: ZOOL 241 or 242. Offered in alternate years.

ZOOL 351 Aquatic Invertebrates of Alberta
★3 (first term, 3-0-3). Prerequisite: ZOOL 250 or 252/253.

ZOOL 352 Principles of Parasitism
★3 (first term, 3-0-3). Prerequisite: ZOOL 231; ZOOL 250 or 252/253.

ZOOL 353 Protozoology
★3 (first term, 0-1s-6). Prerequisite: ZOOL 250 or 252/253. Offered in alternate years.

ZOOL 354 Wildlife Disease
★3 (second term, 3-0-3). Prerequisite: AN SC 350 or FOR 365 or MICRB 265 or 200-level course in Zoology. Offered in alternate years.

ZOOL 361 Marine Biology
★3 (second term, 3-0-0). Prerequisite: ZOOL 250 or 252/253.

ZOOL 366 Boreal Ecology
★3 (second term, 3-0-0). Prerequisite: ZOOL 231, or consent of department. Note: See GEOG 465, 466.

ZOOL 370 Ethological Mechanisms
★3 (first term, 3-0-3). Prerequisite or corequisite: ZOOL 241 or 242.

ZOOL 371 Behavioral Ecology and Sociobiology
★3 (first term, 3-0-3). Prerequisite: ZOOL 231.

ZOOL 382 Comparative Vertebrate Histology
★3 (second term, 3-0-3). Prerequisite: ZOOL 200 or 225.

ZOOL 406 Current Problems in Ornithology
★3 (second term, 3-0-0). Prerequisite: ZOOL 306.

ZOOL 430 Experimental Zoology
★3 (second term, 3-0-3). Prerequisite: STAT 237 and a 300-level biolodical sciences course.

ZOOL 434 Field Course in Animal Ecology
★3 (first term, 0-0-6). Prerequisite: ZOOL 331 or 332; STAT 237.

ZOOL 436 Theoretical Population Biology
★3 (second term, 3-0-3). Prerequisite: MATH 113, STAT 237, ZOOL 231, and a 300-level biological sciences course.

ZOOL 444 Laboratory Experimental in Animal Physiology
★3 (either term, 0-0-6). Prerequisite: ZOOL 340, 341, 342, or 343 and consent of department.

ZOOL 464 Limnology
★3 (first term, 3-0-3). Prerequisite: A 300-level biological sciences course and consent of department.

ZOOL 467 Wildlife Conservation
★3 (first term, 3-0-3). Prerequisite: ZOOL 306 and 308, (or ZOOL 201), and consent of department.

ZOOL 468 Problems in Wildlife Conservation
★3 (second term, 3-0-0). Prerequisite: ZOOL 467 and consent of department.

ZOOL 474 Projects in Animal Behavior
★3 (second term, 0-1s-4). Prerequisite: ZOOL 370 or 371.

ZOOL 495 Honors Research
★3 (either term, 0-0-6). Prerequisite: A 300-level Biological Sciences course. Only open to Honors students.

ZOOL 498 Honors Colloquium
★0 (either term, 0-1s-0). Prerequisite: A 300-level Biological Sciences course. Only open to Honors students.

204.83.5 Graduate Courses

THES 900 Thesis
THES 999 Thesis

ZOOL 420 Seminar in Zoology
★0.0 (0-1s-0). Note: Strongly recommended for all fourth year Honors and first year graduate students. Prerequisite: A 300-level biological sciences course.

ZOOL 422 Molecular Evolutionary Biology
★3 (second term, 3-0-3). Laboratory techniques and the application and interpretation of protein and DNA variation in evolutionary biology: phylogeny reconstruction and vicariance biogeography (with particular emphasis on problems unique to molecular data), paternity analysis, direction and extent of hybridization, various aspects of population structure (e.g., inbreeding, population subdivision). Prerequisite: BIOCH 301 and consent of department. GENET 280 or ZOOL 321 strongly recommended.

ZOOL 423 Current Problems in Evolutionary Genetics
★3 (first term, 3-0-0). Discussion of selected topics in ecological genetics emphasizing both methodology and interpretation. The course will focus on a detailed discussion of a few topics, rather than on a general review, and will rely heavily upon readings from the primary literature. Prerequisite: ZOOL 231 or ZOOL 321 or GENET 280. Credit for this course may be obtained more than once.

ZOOL 429 Special Problems in Zoology
★3 (either term, 3-0-0). Registration will be contingent on the student's having made prior arrangements with a faculty member willing to teach the course. Credit for this course may be obtained more than once. Prerequisite: A 300-level biological sciences course and consent of department.

ZOOL 431 Individual Study
★3 (either term, 0-0-6). Registration will be contingent on the student's having made prior arrangements with a faculty member willing to supervise the program. Successful completion of this course requires an oral presentation on the research project to students registered in the course.Credit for this course may be obtained more than once. Prerequisite: A 300-level biological sciences course and consent of department.

ZOOL 442 Current Problems in Neurobiology
★3 (second term, 3-0-0). Discussion of selected topics in invertebrate and vertebrate neurobiology. Prerequisite: ZOOL 342 or consent of department. Credit for this course may be obtained more than once.

ZOOL 452 Experimental Parasitology
★3 (second term, 0-1s-6). Experimental approaches to study host-parasite relationships including *in vitro* cultivation of parasites, characterization of parasite antigens and molecular mechanisms of host defense. Requirements include a seminar and a research project. Prerequisite: ZOOL 352 and consent of department.

ZOOL 461 Current Problems in Animal Ecology
★3 (second term, 3-0-0). Credit for this course may be obtained more than once. Prerequisite: ZOOL 231 and a 300-level biological sciences course.

ZOOL 471 Current Problems in Animal Behavior
★3 (second term, 3-0-0). Discussion of topics and problems most characteristic of invertebrate behavior (vertebrate behavior treated in ZOOL 371), such as kineses, taxes, complex orientation, species specific behavior, social phenomena and communication. Prerequisite: ZOOL 370 or 371. Offered in alternate years.

ZOOL 472 Current Problems in Behavioral Ecology
★3 (first term, 3-0-0). Discussion of behavioral problems with ecological implications. Prerequisite: ZOOL 370 or 371 or consent of department.

INT D 543 Current Problems in Neuroendocrinology
★3 (second term, 3-0-3). Discussion of selected tpoics in neuroendocrinology. Prerequisite: ZOOL 343 or PHYSL 401. Creidt for this course may be obtained more than once. Offered alternate years.

INT D 544 Physiology of Reproduction
★3 (second term, 3-0-0). [Physiology]

INT D 545 Physiology of Transport Systems
★3 (second term, 3-1s-=0). A consideration of transport, mechanisms primarily from the physiological rather than biochemical viewpoint. Major models considered are the vertebrate erythrocyte and a variety of epithelia from vertebrates and invertebrates. Designed for advanced undergraduate and graduate students. Offered in alternate years. Prerequisite: PHYSL 310 or 352 or ZOOL 241 or 242. [Physiology]

ZOOL 580 Monoclonal Antibodies
★3 (second term, 0-0-6). Laboratory exercises designed to impart training in raising monoclonal antibodies by hybridoma technology and screening antibody production by enzyme linked assay and immunocytochemistry. This course will be organized to include individual projects and is designed for graduate students and senior undergraduate students. Note: Enrolment is strictly restricted due to limited labortory facilities. Consent of the instructor is required.

ZOOL 601 Philosophy, Sociology and Politics of Science
★3 (first term, 3-0-0). Discussion of the influences of current philosophical concepts, and the sociological and political realities, on zoological research and teaching. Prerequisite: Consent of department.

ZOOL 602 Scientific Communication
★3 (second term, 3-0-0). How to write and publish scientific papers, write grant proposals, present results in graphs and tables, and give oral presentations. Prerequisite: Consent of department.

ZOOL 605 Current Problems in Fish Ecology and Systematics
★3 (second term, 3-0-0). Credit for this course may be obtained more than once.

ZOOL 620 Graduate Core Course
★3 (first term, 2-3s-0). A course designed for first-year Zoology graduate students which emphasizes the application of scientific methodology. A major goal of the course will be to illustrate the interdisciplinary nature of zoological research and how such interdisciplinary connections can be relevant to the student's research. Prerequisite: Consent of department.

ZOOL 631 Seminar in Ecology
★1 (either term, 0-2s-0). Credit for this course may be obtained more than once.

ZOOL 642 Seminar in Comparative Animal Physiology
★1 (either term, 0-2s-0). Credit for this course may be obtained more than once.

ZOOL 643 Advanced Comparative Animal Physiology
★3 (either term, 3-0-0). Credit for this course may be obtained more than once.

ZOOL 656 Helminthology
★3 (first term, 0-6L-0).

ZOOL 657 Biology of Parasites
★3 (either term, 3-0-0). Lectures and discussion of selected topics in parasitology. Credit for this course may be obtained more than once.

ZOOL 663 Advanced Ecology
★3 (either term, 3-0-0). Credit for this course may be obtained more than once.

ZOOL 664 Limnology and Fisheries
★1 (either term, 0-2s-0). Credit for this course may be obtained more than once.

ZOOL 665 Aquatic Biology
★3 (second term, 3-0-0). Credit for this course may be obtained more than once.

ZOOL 666 Seminar in Northern Biology
★1 (either term, 0-2s-0). Credit for this course may be obtained more than once.

Note:
(1) See also courses listed under §204.10/Biology.
(2) A list of paleontology courses may be found under §204.58/Paleontology.
(3) See also immunology courses listed under §204.53.5/Microbiology.

Marine Science

MA SC 500 Graduate Level Directed Studies
★6 (0-0-6). A graduate level course of directed studies under the supervision of a member of the faculty. The study will involve a research project provided by the supervisor in the field of interest of the student, and will be designed to take maximum advantage of the laboratory and/or field opportunities offered at Bamfield Marine Station. May be offered over a 3-week period.

MA SC 501 Graduate Level Special Topics
★6 (0-0-6). Courses offered, as opportunities arise, by distinguished scientists who are visiting at Bamfield Marine Station. It is expected that the course will generally be of a specialized nature and will carry graduate credit.

MA SC 502 Graduate Level Special Topics
★3 (0-0-6). Courses offered as opportunities arise, by distinguished scientists who are visiting at Bamfield Marine Station and are prepared to offer a course extending over a three-week period. The course will carry graduate credit.

University of Alberta
Edmonton

1991/92 Calendar

Faculty of Extension

Faculty of Extension

215 Introductory

215.1 Members of the Faculty

Professor and Dean
DL Foth, PhD (on leave)

Professor and Acting Dean
GW Lamble, PhD (to June 30, 1991)

Professors
AA Einsiedel, PhD
HG Savage, Dip in Art
JA Shaw, MSc
AR Schmidt, Dip in Fine Art
WH Stewart, PhD
DJ Weideman, PhD

Associate Professors
RJ Banko, MA
JD Forbes, Dip in Art
EC LeSage, Jr., MA
GH Wright, BA

Assistant Professor
EW Archer, PhD
PA Leginsky, MSc

Full-Time Temporary Academic Staff
FA DeJong, MA (Program Promotions Officer)
MA Ferguson, LLB (Assistant Professor, Legal Resource Centre)
LE Gander, LLB (Professor and Director, Legal Resource Centre)
DJ Haughey, PhD (Assistant Professor, Faculty of Extension)
EM Hutchinson (Librarian, Legal Resource Centre)
RW Kinney, MA (Associate Professor, Faculty of Extension)
SS Sy, MSc (Associate Professor and Acting Director, Legal Resource Centre)

Administrative Officers
KA Bower, BA
KL Carswell, BCom (Director, Special Sessions)
RJ Smyth, BA

Additional Members of Faculty Council

President
P Davenport, PhD

Director, Technical Services
WH Jopling, BScEng, Director

Director, University Libraries
E Ingles, MLS

Director, Computing Systems
KC Porteous, PhD (Chemical Engineering)

General Faculties Council Members
PA Brook (Industrial/Vocational Education)
P Hayes, MHSA (Nursing)
D Steigmann, PhD (Mechanical Engineering)

Senate Members
A Denson, Grande Cache
W Goos, Leduc
A Meldrum, Edmonton
M O'Neil, St Albert

Other Members
J Feddes, PhD, (Extension Committee, Faculty of Agriculture and Forestry)

215.2 General Information

The Faculty of Extension serves as a link between the University and the people of the province who need access to the information and expertise of the University in order to solve practical problems and to further personal and professional growth and interests. Established as the Department of Extension in 1912, the Faculty offers continuing education courses and programs to the provincial community in the areas of business, fine arts, the humanities, the professions, and various sciences. The Faculty also provides books, films, tapes and educational media equipment. Faculty members are involved in consulting, training, and research in adult education. An Annual Report is available upon request.

Brochures giving detailed information on courses or programs may be obtained by calling the particular programming area. For full listings of courses or further information contact the University of Alberta, Faculty of Extension, 8811 - 111 Street, Edmonton, AB, T6G 2G4 or telephone 492-3116. A summary of programs and services follows.

216 Programs and Services

216.1 Adult Education

The Faculty of Extension provides continuing professional education for educators of adults from a wide range of public and private agencies, including business and industry, government departments, social service agencies, hospitals, community organizations, and educational institutions. These seminars and workshops serve instructors, trainers, staff development officers, counsellors, group leaders, curriculum designers and librarians alike. Course topics are aimed at developing competencies associated with the design, development and delivery of adult education and training. A certificate in Adult Continuing Education is now available. Courses are offered both by distance delivery and face-to-face format. Phone 492-7237.

216.2 Agriculture and Forestry

This program area facilitates the development, dissemination, interpretation and application of scientific knowledge and technology in partnership with the Faculty of Agriculture and Forestry, Alberta Agriculture and various other professional and industrial organizations. Activities include conferences, seminars, home-study courses and extension publications designed for professionals in the production, marketing and service areas of agriculture and forestry. Some of the courses and publications in these areas are also of benefit to the novice or amateur. Phone 492-3029.

216.3 Applied Behavioral Sciences

Through this programming area, the Faculty of Extension offers a wide range of psychology and personal development courses for the general public, as well as continuing education for the helping professions. Phone 492-5069.

216.4 Business

This program area provides seminars and short courses for supervisors, managers and human resources staff from business, government and industry. Topics range from general management sales, personnel and small business issues to a variety of general interest courses in personal finance and investment planning. Phone 492-8315.

Courses leading to accreditation in accounting are offered in conjunction with the Society of Management Accountants. Accounting courses qualifying as educational equivalencies for the Society of Management Accountants are offered in conjunction with the Faculty's business certificate programs. Phone 492-3027 or 492-5545.

The Faculty also provides industry-recognized certificate programs in computers and business data processing; management development; personnel administration; and security management. Phone 492-3027 or 492-5545.

In addition, a citation program is offered in supervisory development. Phone 492-8315.

The Faculty also operates an IBM microcomputer laboratory in downtown Edmonton, in cooperation with Edmonton Telephones. In addition, the Faculty operates a Macintosh microcomputer lab in the Campus Tower Building, 8625 - 112 Street. Introductory, intermediate and advanced courses are offered in a variety of convenient formats. Phone 492-5318.

216.5 Community Development and Public Affairs

The Public Affairs program of the Faculty was established in 1963 and the Community Development aspect added in 1967. It has deployed two educational methods: the **practicum advocacy form** to provide a dialogue and information base for adult learners and citizen actives who are seeking to develop a body of concepts and an advocacy posture on matters of topical public policy; and the **classroom mode** to provide for the transfer of a body of knowledge or technical data through workshops, seminars, courses, and conferences. This data may be drawn from industry, academia, or commerce. Topics dealt with by this unit have been social policies, urban planning policies, historic preservation, city transportation, energy and environmental conservation, and local economic development such as the Old Strathcona Historical District. In 1985 the Unit took on the creation of Summer Youth University which now caters to 650 high school students who are expectant University registrants. For the immediate years of 1991 and beyond, the unit is incorporating a set of permanent programs for the institutionalization of Environmental Education.

216.6 English Language Program

The English Language program area offers levels of training from basic to advanced for non-native speakers who wish to improve their command of English reading, writing and conversation. Forty-hour evening courses, 200-hour intensive day courses and special intensive day courses, ranging from 100 to 500 hours, are offered through the program.

Teaching English as a Second Language courses are also offered for those interested in learning more about this area. Phone 492-3036.

216.7 Fine Arts

The Faculty offers a wide range of courses in many areas of the fine arts, including art history, ceramics, design, drama, drawing and painting, film studies, music, photography, printmaking and professional development for artists and others in the arts community. Offerings range from short workshops to 20-week courses. While many of the classes are held in the Faculty's own studios, others are offered in rural communities as part of the Faculty's long-standing community art program. The Fine Arts Program also hosts conferences for artists and art programmers and plays an active consultative role in the cultural community. Phone 492-3034.

216.8 Government Studies

The three program units within Government Studies, Faculty of Extension, focus continuing education programming to the public sector, including federal, provincial, municipal, university, and not-for-profit administrators.

Local Government Programs provide a variety of programs throughout the province for appointed municipal officials and school authorities, assessors, and tax agents. Certificate and Citation programs are offered in the areas of local government administration and municipal assessment. A Senior Executive Fellows program is geared to senior level local government administrators.

Public Policy Programs, in conjunction with various government departments and municipal associations address policy issues in a variety of areas. Traditionally, two yearly conferences are held for local government officials, both elected and appointed. Recently a growing number of programs have been offered to develop political leadership of both incumbent and newly elected municipal officials.

Public Administration Programs provide continuing education for practising and aspiring public administrators and managers. Offerings include a certificate program in public administration and a citation program in public management as well as general management seminars, colloquia, and conferences.

Phone 492-5052 for information on any of the Government Studies programs.

216.9 Land Economics and Real Estate

Educational program offerings in Land Economics and Real Estate include a Certificate in Real Estate, approved courses for Professional Designations in the real estate industry, a series of seminars in Real Estate Management, a Real Estate 1000 Course, and short courses in Home Management.

Real Estate Certificate, Seminar, and Professional Designation courses, directed toward real estate practitioners, institutional investors, property developers, construction personnel, professionals, and interested individuals, aim to equip students to function more efficiently and effectively in their working environments by providing a combination of theory and practical information with a major focus on current real property issues and market direction. Real Estate 1000 is an entry-level mandatory prelicensing education program for all prospective real estate sales personnel. Short courses in Home Ownership and Interior Design offer a diverse range of educational opportunities in home management for the public of Alberta.

216.10 Law

This program area is served through the Legal Resource Centre, which provides a variety of legal education opportunities, including library services, consulting services, courses, seminars, workshops, publications and research assistance. Activities are designed chiefly to meet the needs of teachers, librarians and community leaders; however, members of the general public and the legal profession also make use of the resources. The centre's Applied Legal Studies Program is designed for anyone who would benefit professionally from a greater understanding of the law and for those who have a general interest in the law. Phone 492-5732.

The centre is also active in promoting the need for a comprehensive approach to legal education and maintains a toll-free Public Legal Education Hotline (1-800-232-1961) which provides information about province-wide legal education services.

216.11 Liberal Studies

The Faculty offers a wide range of non-credit courses for the public through its Liberal Studies program. Content is drawn mainly from the Humanities and Social Sciences and includes a large conversational French program, an extensive writing program, courses in classics and modern languages and literature, as well as history, religion and current issues. The annual Spring Session for Seniors program and opportunities to study abroad are also part of this program. Phone 492-5055.

216.12 Science and Technology

The Faculty offers certificate programs in Occupational Safety for industrial managers and technicians; Gerontology for nurses, social workers, or staff at nursing homes and hospitals; and Construction Administration for junior administrators. A variety of courses, seminars, and short courses in design and development, technology, fitness, health science, and general sciences are also offered. Topics include professional development in the construction industry, biology, geology, transportation, gerontology, health promotion, and traffic safety. Phone 492-2015.

In conjunction with the Faculty of Nursing, Extension provides continuing education courses, seminars, workshops and conferences for members of the nursing profession. Phone 492-2015.

216.13 Special Sessions

The Office of Special Sessions organizes and administers the delivery of degree-credit courses from 60 departments in 15 other University faculties.

It provides extra-sessional credit course opportunities through Intersession (Spring and Summer terms) and the Off-Campus Credit Program at both undergraduate and graduate levels to full- and part-time students. The Spring and Summer terms provide a wide variety of degree credit courses from May through August on the university campus, while the Off-Campus Program provides students with credit course opportunities in their home communities.

These sessions provide students already in programs with an ideal opportunity to complete or supplement their degree. In addition, new students may embark on a university degree through these sessions.

Besides providing individually arranged courses, the Off-Campus Credit Program offers programming in Slave Lake and Spruce Grove enabling students to attend full-time or part-time at the first-year university level and, in some cases, the second-year level. Phone 492-3752.

216.14 Women's Program

The Women's Program located at 11019 - 90 Avenue provides non-credit courses and services of special interest to women. The overall goal is to provide a program which increases awareness of the position of women in society and options for improving that position both individually and collectively.

The Women's Program offers a wide range of courses, seminars, and workshops in applied women's studies, personal, and career development. The Women's Program works closely with a variety of women's groups and sponsors provincial women's conferences, public forums, and lectures. Phone 492-3093 for more information or to have your name added to the mailing list.

216.15 Adult Student Centre

The Adult Student Centre, located in Room B-03 of the Campus Tower Building, 8625 - 112 Street, serves the informational needs of Faculty of Extension students and the community. In addition to substantial book collections to service a broad range of Extension courses, the centre houses the most extensive adult education library on campus. The centre also acts as a distribution point for Educational Media Services' collection of records, audiocassettes, laserdiscs, compact discs, and videocassettes. The centre's print resources are used by Extension students and staff and students in the Faculty of Education and other parts of the University. The nonprint collections of audio and video materials are available to the general public on a service fee basis. Phone 492-5044.

216.16 Educational Media Services

Educational Media Services, located in Room B-02 of the Campus Tower Building, 8625 - 112 Street, provides equipment, educational materials, consultation, and production services to support the Faculty's continuing education courses. Educational materials are also supplied to other faculties and departments for their credit programs. A province-wide materials service is provided to other educational institutions, government agencies, businesses, community organizations, and individuals. Individual home-use materials are housed in the Adult Student Centre and are available on a membership service fee basis. A large library of 16 mm educational films, as well as a growing collection of videocassettes, are available for educational programs. Other resources include slide-tape sets and overhead transparencies. Phone 492-5041.

216.17 Legal Resource Centre Library

Located at 10049 - 81 Avenue, the Legal Resource Centre houses a library of legal education materials which is open to the public. Phone 492-5732.

216.18 Women's Resource Centre

The Women's Resource Centre at 11019 - 90 Avenue, Edmonton supports the activities of the Women's Program, Faculty of Extension and addresses the informational needs of women in the community. It contains books, periodicals, and offprints for, by, and about women. It is open to the public. Phone 492-3093.

Awards

221 Introduction

The Office of Student Awards at the University of Alberta provides overall direction, planning and on-going management of university entrance, undergraduate, graduate, and post-doctorate scholarship and fellowship support programs. The Office is primarily an academic service unit in that it coordinates the awards administration function for all faculties on campus, implements the awards policies made by the various policy-making bodies, reports back to these committees on issues and concerns that are identified, and provides an administrative liaison function to external funding agencies offering awards to University of Alberta students.

In its dealings with students, the Office's primary role is that of an information service. It advertises and informs students of awards opportunities available, informs students of the application and selection processes for both on and off-campus scholarship competitions, and advises students on techniques which will help them maximize their chances of receiving an award.

For further information regarding awards, contact the Office of Student Awards, 252 Athabasca Hall (492-3221).

221.1 Director of Student Awards

R Chilibeck, BEd

221.2 General Information

This Calendar includes a list of awards of all kinds and of financial assistance available to students at the University of Alberta as shown in the Table of Contents.

Students of high ability or those who require financial assistance are urged to read carefully the sections of interest to them.

Application forms may be obtained from the Student Awards Office, and completed forms must be received by the Student Awards Office by the dates indicated in the various sections.

The University assumes liability for the payment of fellowships, scholarships, bursaries, prizes, and other awards only to the extent that gifts from donors, or returns from particular investments for these purposes, will permit.

For information regarding assistance under the Provincial Students Finance Act or the Canada Student Loans Plan refer to the special sections in this Calendar.

As this Calendar is published a considerable time before the opening of the session, the University reserves the right to make whatever changes circumstances may require, including the cancellation of particular awards.

222 Awards Open to All Faculties

222.1 Matriculation Awards

222.1.1 General Information

Unless otherwise stated in the terms of any award, these awards are tenable only at the University of Alberta, Edmonton. There are a few which are also tenable at colleges affiliated with the University. Unless otherwise stated, matriculation awards are for students entering the University for the first time. Students who have attended other postsecondary institutions are ineligible.

Students entering the first year of Faculté Saint-Jean are eligible for these awards and may apply on the University of Alberta Matriculation Scholarship application form, or may apply directly to any of the other donors as indicated.

In order that funds be broadly distributed, no undergraduate student may hold more than one University of Alberta major award in any one year. All monetary awards, except certain cash prizes, are contingent upon students proceeding with their university programs in the **immediate, next academic session** and are payable only when students are in actual full-time attendance at the University. Payment of tuition fees is a first charge against such awards. The minimum value of a major award shall be determined by the Undergraduate Awards and Scholarship Committee and reviewed by that Committee. The current minimum value of a major award is approximately $2,500.

Completed application forms must be received as indicated in the terms of the various awards. Awards will be announced about October 1.

For scholarship purposes the University of Alberta will compute matriculation averages as follows:
The mark in English 30 and the best four other marks in subjects from Group A (Humanities) and Group C (Sciences). The classification of subjects is as follows:

Group A (Humanities)
Social Studies 30
English 30
30-level language other than English
Additional 30-level language other than English

Group C (Sciences)
Biology 30
Chemistry 30
Mathematics 30
Mathematics 31
Physics 30

222.1.2 List of Awards

The Alberta Egg Producers Scholarships
Field: Animal Science or Home Economics
Value: $500 each
Number: 2
Conditions: Awarded annually on the basis of high academic standing to two students entering first year Agriculture or Home Economics.
Donor: The Alberta Egg Producers Board
Apply: Director of Student Awards by July 15th.

The Alma Mater Matriculation Bursaries
Field: Open
Value: $600 each
Number: 3
Conditions: Offered annually to students entering first year on the basis of high academic attainment. Financial need of the student may be taken into consideration.
Donor: The Alma Mater Fund of The University of Alberta.
Apply: Director of Student Awards by July 15.

The Harry W Bass Memorial Bursaries
Field: Open
Value: $800 each
Number: 6
Conditions: To be awarded to students entering first year at The University of Alberta, based on academic standing and financial need.
Donor: Endowed by the late Harry W Bass of Dallas, Texas.
Apply: Director of Student Awards by July 15.

The Viscount Bennett Scholarships
Field: Open
Value: $850 each
Number: 4
Conditions: Open to students who have resided for at least five consecutive years in Calgary or within twenty miles of that city, or in Banff National Park. Awarded on the basis of academic attainment, good character and satisfactory personal qualities. Financial need may be taken into consideration.
Donor: From a trust created by the late Right Honorable Viscount Bennett, PC, KC, LLD, DCL, of Calgary and Mickelham.
Apply: Director of Student Awards by July 15.

The Charlotte A and J Garner Caddel Memorial Leadership Scholarship
Field: Open
Value: $1000 each
Number: 1
Conditions: To be awarded annually to a student entering the first year of an undergraduate program at the University of Alberta and who is a graduate of a high school in the County of Strathcona. The recipient will be an individual who best combines superior high school academic achievement (minimum 80%) with demonstrated community service and leadership qualities.
Donor: Endowed by the children of the late J Garner Caddel and Charlotte A Caddel — Bob Caddel, Jack Caddel, Ted Caddel, and Vicki Chilibeck — and their many family and friends.
Apply: By March 15 using the University of Alberta Leadership Awards form available from high school guidance counsellors or the Office of Student Awards.

The Canadian Foundation for Poliomyelitis and Rehabilitation (Alberta Chapter) Bursaries
Field: Rehabilitation Medicine
Value: $800 each
Number: 4
Conditions: Awarded annually to applicants entering the first, second, third and fourth year of Rehabilitation Medicine. The basis of the award will be academic standing. It is expected that recipients will carry on their profession in Alberta for a reasonable period after graduation.
Donor: The Royal Canadian Legion.
Apply: Director of Student Awards - undergraduates by June 3 or matriculants by July 15.

The City of Edmonton Matriculation Scholarship
Field: Open
Value: $500
Number: 1
Conditions: To be awarded annually on the basis of satisfactory academic standing to students whose permanent residence is the City of Edmonton.
Donor: The City of Edmonton.
Apply: Director of Student Awards by July 15th.

The Dr. K. A. Clark Memorial Bursary
Field: Open
Value: $750
Number:
Conditions: To be awarded to a student from the area of Fort McMurray. The award will be based on academic standing and financial need. It may be awarded either to a matriculant entering the first year of the University of Alberta or to an undergraduate but with preference to the former.
Donor: The late Mrs. Dora Clark, in memory of her late husband, Dr KA Clark.
Apply: Director of Student Awards by July 15.

The Percy Clubine Memorial Bursaries
Field: Agriculture
Value: $700 each
Number: 4
Conditions: Awarded annually on the basis of academic standing and financial need, to students entering first year Agriculture. The awards are conditional on a minimum Grade XII average of 70%.
Donor: Endowed by the late Hazel L Clubine (through The Guaranty Trust Company of Canada).
Apply: Director of Student Awards by July 15.

The Copp Family Scholarships
Field: Open
Value: $2,500
Number: 4
Conditions: Awarded annually to an individual who is entering undergraduate studies at any level for the first time at the University of Alberta. Candidates must be in the top 10% of applicants academically, and must have demonstrated extracurricular and community involvement.
Donor: Endowed by the estate of Vivian D Boucher.
Apply: By March 15 using the University of Alberta Leadership Awards Application Form available from high school guidance counsellors or the Office of Student Awards at the University of Alberta.

The Walter A Crawford Memorial Bursary in Agriculture
Field: Agriculture
Value: $1,500
Number: 1
Conditions: Awarded annually on the basis of superior academic standing and financial need to a student entering first year at the University of Alberta in the Faculty of Agriculture.
Donor: Endowed through the will of the late Walter A Crawford of Edmonton.
Apply: Director of Student Awards by July 15.

The Clare Drake Hockey Awards
Field: Open
Value: $1,500
Number: Variable
Conditions: Offered annually to students registered full-time in a degree program at the University of Alberta. Students must have a matriculation average of at least 75% from any high school in Canada or the United States, or the equivalent of a GPA of at least 6.5 at the University level. Recipients must be members of the Golden Bears hockey squad.
Donor: Endowed by the University of Alberta Golden Bears Hockey Alumni Association.
Apply: By nomination from the Department of Athletics.

The Edmonton Northlands Bursaries
Field: Open
Value: $1500 each
Number: Variable
Conditions: To be awarded annually on the basis of high academic standing, students entering first year of a degree program of studies at the University of Alberta, and who are Permanent Residents of the Province of Alberta.
Donor: The Edmonton Northlands Endowment Program with matching income provided by the 1980 Advanced Education Endowment Fund.
Apply: Director of Student Awards by July 15.

The Edmonton Musical Club Scholarship in Music
Field: Music
Value: $1000
Conditions: To be awarded annually to a student from an Alberta High School, entering the first year of the Bachelor of Music program.
Donor: Endowed by the Edmonton Musical Club upon its dissolution in 1973.
Apply: Selection will be made by the Department of Music, either following the auditions for admission, or at the end of the first term of the first year.

The Edmonton Sportsman's Fund Bursary
Field: Physical Education
Value: $400
Conditions: To be offered annually to a student from an Edmonton high school entering first year of the Faculty of Physical Education and Recreation. The award will be based on academic standing, financial need and participation in athletics in high school.
Donor: The Edmonton Sportsman's Fund Inc.
Apply: Director of Student Awards by July 15.

The Federated Pipe Lines Ltd Scholarship
Field: Open.
Value: $500 per year for up to four undergraduate years.
Conditions: Offered each even-numbered year to a student of outstanding merit entering first year. This scholarship is subject to renewal for three further years or until graduation, whichever is less, providing a satisfactory academic standing is maintained.
Apply: Director of Student Awards by July 15.

The Harry A and Frances Lepofsky Friedman Scholarship
Field: Open
Value: $975
Number: 1
Conditions: Offered annually to a Native Indian or Inuit student entering the University of Alberta, on the basis of superior academic achievement.
Donor: Endowed by Ruth Bernice Friedman, daughter of Harry A and Frances Lepofsky Friedman.
Apply: By nomination from the Office of Native Student Services.

The Friends of the University Matriculation Bursaries
Field: Open
Value: $500 each
Number: 3
Conditions: Offered to graduates of Alberta high schools, on the basis of matriculation standing and financial need.
Apply: Director of Student Awards by July 15.

The Dr FP Galbraith Matriculation Bursaries
Field: Open
Value: $1500 each
Number: 12
Conditions: Offered annually to students entering first year on the basis of financial need and academic standing.
Donor: The Escheated Estates Fund of the University of Alberta in memory of the late Dr FP Galbraith, Publisher of the Red Deer Advocate and Chancellor of the University of Alberta, 1964-1970.
Apply: Director of Student Awards by July 15.

The Gardener Brothers Scholarships in Food Science
Field: Food Science
Value: $1,000
Number: 3
Conditions: To be awarded annually to graduating Alberta High School students who are entering the first year of the BSc Food Science program at the University of Alberta. Selection will be on the basis of high academic standing in the required Grade XII courses for admission to the Food Science program, and on performance in a personal interview (or essay) designed to assess the candidate's potential in Food Science.
Donor: Endowed by Ted Gardener, Theo Gardener and Ed Gardener of Edmonton.
Apply: Food Science Department, University of Alberta by July 15.

The William Norman Grace Memorial Bursaries
Field: Open
Value: $2,500
Conditions: To be offered annually on the basis of academic standing to a student who has been an Alberta resident for at least 12 months prior to application, and who is entering first year at The University of Alberta. Preference will be given to students entering the Faculty of Business Administration and Commerce.
Donor: Endowed anonymously.
Apply: Director of Student Awards by July 15.

The Hu Harries Memorial Award
Field: Open
Value: $1500
Number: 3
Conditions: Awarded annually to an employee or volunteer of the YMCA, YWCA (or similar institution), who entered their first year of studies at the University of Alberta. Based on academic promise, leadership qualities, and social conscience. Recipients must be Canadian Citizens or Permanent Residents. Financial need may be considered.
Donor: Endowed by friends and family of the late Hu Harries, first Dean of Commerce at University of Alberta.
Apply: The Office of Student Awards or Mr Wiley Stafford, YMCA, 10030 - 102A Avenue, Edmonton, Alberta, T5J 0G5 by July 15.

The William and Mary Hawrysh Memorial Scholarship
Field: Open
Value: $2500
Number: Variable
Conditions: To be awarded annually to graduates of Alberta high schools who are entering the first year of a degree program at the University of Alberta. Recipients will be chosen on the basis of superior academic achievement, leadership abilities, extra curricular activities, and community involvement.
A number of awards will be reserved for students transferring to the University of Alberta from Alberta's community colleges.
Donor: Endowed by the late William Nestor Hawrysh and his wife, Katerina Hawrysh in memory of Mr Hawrysh's parents, William and Mary Hawrysh.
Apply: By March 15 using the University of Alberta Leadership Awards application form available from high school guidance counsellors, college awards offices, or the Office of Student Awards.

The Elizabeth Imrie Memorial Leadership Award
Field: Open
Value: $1,000
Number: 1
Conditions: Awarded annually to an individual who is entering the first year of an undergraduate program of study at the University of Alberta in any Faculty. Candidates must be in the top 10% of applicants academically, and must have demonstrated extra-curricular and community involvement.
Donor: Endowed by the Estate of Mary Imrie.
Apply: By March 15 using the University of Alberta Leadership Awards application form available from high school guidance counsellors or the Office of Student Awards.

The IODE Coronation Bursaries
Field: Open
Value: $800 each
Number: 3
Conditions: Awarded annually to students entering first-year university or college in Alberta in any degree course. All candidates must have resided in the province of Alberta for at least three years prior to application.
Where tenable: Any university in Alberta or affiliated college.
Donor: IODE
Apply: Director of Student Awards by July 15.

The Adam Kryczka Memorial Hockey Award
Field: Open
Value: $1,400
Number: 1
Conditions: Awarded annually to a student registered full-time in a degree program at the University of Alberta. Candidates must have a matriculation average of at least 75% from any high school in Canada or the United States, or the equivalent of a GPA of at least 6.5 at the university level. Recipient must be a member of the Golden Bears hockey squad, and preference will be given to goaltenders.
Donor: Endowed by friends of Adam Kryczka and the Kryczka family.
Apply: By nomination from the Department of Athletics.

The Moe Lieberman Scholarship
Field: Open
Value: $600
Number: 1
Conditions: Awarded annually to a student entering first year on the basis of scholastic ability and financial need. Consideration will be given to merit in football.
Donor: Edmonton Eskimo Football Club and Mr ME Lieberman.
Apply: By nomination from the Department of Athletics.

The Amelia Viola Lobb Memorial Bursary
Field: Education
Value: $400
Conditions: To be offered annually to a student from an Alberta high school who will be entering first year of the Faculty of Education. The award will be based on academic standing and financial need.
Donor: Endowed through the will of the late Miss Lobb who taught for an extensive period of time in the Province of Alberta.
Apply: Director of Student Awards by July 15.

The MacEachran Memorial Bursary in Education
Field: Education
Value: $1000.
Number: 2.
Conditions: To be offered on the basis of academic standing and to a student from an Alberta high school entering first year of the Faculty of Education.
Donor: Endowed by the late Professor Emeritus JM MacEachran.
Apply: Director of Student Awards by July 15.

The Melcor Developments Limited Scholarship
Field: Business
Value: $350
Number: 1
Conditions: Awarded on the basis of high scholastic standing from an Alberta high school.
Donor: Melcor Developments Limited.
Apply: Director of Student Awards by July 15.

The Millar Western Entrance Scholarships
Field: Open
Value: $2,500
Number: 9
Conditions: To be awarded annually to graduates of Alberta high schools who are entering the first year of a degree program at the University of Alberta. Recipients will be chosen on the basis of superior academic achievement, leadership abilities, extra curricular activities, and community involvement.
A minimum of 2 awards in the Millar Western Award Program (more than 20 in total) will be reserved for individuals graduating from a high school in the Whitecourt area.
Donor: Endowed by Millar Western.
Apply: By March 15 using the University of Alberta Leadership Award application form available from high school guidance counsellors or the Office of Student Awards.

The Millar Western Entrance Scholarships In Business
Field: Business
Value: $2,500
Number: 4
Conditions: To be awarded annually to graduates of Alberta high schools who are entering the first year of a degree program in the Faculty of Business at the University of Alberta. Recipients will be chosen on the basis of superior academic achievement, leadership abilities, extra curricular activities, and community involvement.
A minimum of 2 awards in the Millar Western Award Program (more than 20 in total) will be reserved for individuals graduating from a high school in the Whitecourt area.
Donor: Endowed by Millar Western.

pply: By March 15 using the University of Alberta Leadership Award application form available from high school guidance counsellors or the Office of Student Awards at the University of Alberta.

he Millar Western Entrance Scholarships in ngineering

ield: Engineering
alue: $2,500
umber: 4
onditions: To be awarded annually to graduates of Alberta high schools who are entering the first year of a degree program in the Faculty of Engineering at the University of Alberta. Recipients will be chosen on the basis of superior academic achievement, leadership abilities, extra curricular activities, and community involvement.

A minimum of 2 awards in the Millar Western Award Program (more than 20 in total) will be reserved for individuals graduating from a high school in the Whitecourt area.

onor: Endowed by Millar Western.
pply: By March 15 using the University of Alberta Leadership Award application form available from high school guidance counsellors or the Office of Student Awards at the University of Alberta.

he Millar Western Entrance Scholarship in ome Economics

ield: Home Economics
alue: $2,500
umber: 1
onditions: To be awarded annually to a graduate of an Alberta high school who is entering the first year of a degree program in the Faculty of Home Economics at the University of Alberta. Recipients will be chosen on the basis of superior academic achievement, leadership abilities, extra curricular activities, and community involvement.

A minimum of 2 awards in the Millar Western Award Program (more than 20 in total) will be reserved for individuals graduating from a high school in the Whitecourt area.

onor: Endowed by Miller Western.
pply: By March 15 using the University of Alberta Leadership award application form available from high school guidance counsellors or the Office of Student Awards at the University of Alberta.

he Millar Western Transfer Scholarships

ield: Open
alue: $2,500
umber: 2
onditions: To be awarded annually to former graduates of Alberta high schools who are transferring from an affiliated Alberta college to an undergraduate degree program at the University of Alberta. Recipients will be chosen on the basis of superior academic achievement, leadership abilities, extra-curricular activities, and community involvement. A minimum of two awards in the Millar Western Award Program (more than 20 in total) will be reserved for individuals graduating from a high school in the Whitecourt area.

onor: Endowed by Millar Westerns.
pply: By March 15 using the University of Alberta Leadership Awards application form available from college counselling offices or the Office of Student Awards at the University of Alberta.

he BL Montgomery Scholarship in ngineering

ield: Engineering
alue: $3,000
umber: 1
onditions: To be awarded annually on the basis of high academic standing, evidence of maturity, extra-curricular activities, work experience, and community involvement to a student entering the first year of a degree program in one of the following engineering disciplines: civil, mechanical, mineral, electrical, geological, metallurgical, computer, mining, surveying and petro-chemical. Provided the student maintains a high academic standing, the award will be renewable for the second, third and fourth years.
onor: Western Decalta Petroleum (1977) Ltd. to honor Mr BL Montgomery at his retirement.
pply: Dean of Faculty of Engineering by January 1st (after completion of first term of the first year). A new award will be made only on the completion of the previous recipient's four year scholarship.

Nickie Family Foundation Scholarship

ield: Open
alue: $500 (towards university tuition).
umber: 1
onditions: Awarded by the Alberta High School Mathematics Prize Examination Board on the basis of performance in a scholarship examination held at local schools on the third Tuesday in February. Candidates must first qualify through a Prize Examination held at local schools on the second Tuesday in November. Recipients of the scholarship must be citizens or Landed Immigrants of Canada. In addition, the recipient must enroll full-time in the coming fall at an Alberta university.
onor: The Nickie Family Foundation.
pply: The AHSMPE Board will send out a call to all high schools in Alberta and the North West Territories in late September or early October for applications to the Prize Examination. Candidates should apply through their high school principals.

The Oil Service Charitable Organization Bursary

Field: Rehabilitation Medicine
Value: $1000
Number: 3.
Conditions: Offered annually on the basis of academic standing and financial need to a student entering first year of the Rehabilitation Medicine Program. Preference will be given to students from Alberta and Saskatchewan.
Donor: Endowed by the Oil Service Charitable organization (1964-1976).
Apply: Director of Student Awards by July 15.

The Jean Patoine Scholarship

Field: Any degree program at Faculté Saint-Jean
Value: $1,800
Number: One
Conditions: To be awarded annually to an Albertan whose first language is French entering Faculté Saint-Jean. Based upon academic standing and extracurricular involvement.
Donor: Endowed by the Club Richelieu and the Fonds Jean Patoine for the support of post-secondary studies in French.
Apply: Applications must be received by April 30, by the Selection Committee (c/o Dean, Faculté Saint-Jean).

The Dymtro O Pawluk Scholarships

Field: Open
Value: $500 each
Number: 2
Conditions: To be awarded annually on the basis of high academic standing and financial need to students entering first year at the University of Alberta.
Donor: Endowed by the late Dymtro O Pawluk
Apply: Director of Student Awards by July 15th.

The Peace River Pioneer Memorial Bursaries

Field: Open
Value: Variable up to a total of $6000
Number: Variable
Conditions: Awarded to high school graduates whose homes lie north of township 68 and west of the 5th meridian in the Province of Alberta and who are proceeding into the first year of The University of Alberta or at any institution of university level affiliated with this University and located in the above area. Awards will be based on high academic standing and financial need.
Donor: Endowed by the late Mr Charles Plavin of North Star, Alberta.
Apply: Director of Student Awards by July 15.

The PEO Memorial Prize

Field: Nursing
Value: $200
Conditions: To be awarded to a student from an Alberta high school who will be entering the BSc in Nursing program at The University of Alberta.
Donor: The Edmonton Chapters of the PEO Sisterhood.
Apply: Director of Student Awards by July 15.

The Harvey S Perkins Scholarships

Field: Open
Value: $1500 each
Number: Variable (about 11)
Conditions: Offered annually to students entering first year on the basis of high academic attainment.
Donor: Estate of the late Beulah Hill Perkins.
Apply: Director of Student Awards by July 15.

The David Butchart Pope Scholarships

Field: Agriculture and Forestry
Value: $1,000
Number: 3
Conditions: Awarded annually on the basis of academic standing and financial need to three student entering the Faculty of Agriculture and Forestry. Preference will be given to rural students who are, or have been, members of Boys' or Girls' Clubs.
Donor: The Estate of the late David Anderson Pope.
Apply: Director of Student Awards by July 15.

The AAD/Michael Rodda Awards/Scholarship

Field: Open
Value: $500
Number: Variable
Conditions: To be awarded annually to a deaf student who is entering or continuing in a program at the University of Alberta on the basis of academic excellence, financial need, and commitment as demonstrated to the deaf community by involvement in deaf community activities.
Eligibility criteria
•preference will be given to Canadians, or Landed Immigrants who are residents of the Province of Alberta.
•applicants must have a minimum of 55 db hearing loss, or have sufficient deafness precluding their use of normal telephones.
•priority shall be given to users of the sign language of the deaf. Others may be considered.
•applicants must require interpreters as a primary mode of classroom communication.
Donor: Endowed by the Alberta Association of the Deaf in honor of Dr Michael Rodda in appreciation of his ongoing commitment to furthering awareness of the deaf community and the development of educational programs for the deaf.
Apply: The Office of Disabled Student Services.

The Saddle Lake Steinhauer Entrance Scholarship

Field: Open
Value: $800
Number: 1
Conditions: Awarded annually to a student entering the first year of any undergraduate program at the Unviversity of Alberta, on the basis of superior academic achievement and a good record of community service with or among Native peoples. Preference will be given to Native students.
Donor: Anonymous
Apply: By nomination from Native Student Services.

The Margaret Ann (Hardy) Simpson Award

Field: Arts
Value: $800
Number: 1
Conditions: To be offered annually, on the basis of high academic standing with particular emphasis on achievement in French and/or Latin, to students entering first year Arts.
Apply: To Office of Student Awards by July 15.

The Maurice Arnold Solberg Memorial Scholarship

Field: Humanities
Value: $1,500
Number: 1
Conditions: Awarded annually to a first year student from the "Special Areas District" of Alberta on the basis of superior academic standing, moral character and financial need.
Donor: Endowed through a bequest from Maurice Solberg estate.
Apply: To the Office of Student Awards by July 15.

Ralph and Isabel Steinhauer Scholarship

Field: Agriculture and Forestry, Home Economics, Agricultural Engineering, or Animal Science
Value: $500
Number: 1
Conditions: Awarded annually to a native student entering the University of Alberta, on the basis of superior academic achievement and financial need.
Donor: Endowed by the Steinhauer family.
Apply: To the Office of Student Awards by July 15.

The Robert Tegler Matriculation Bursaries

Field: Open
Value: Tuition and fees
Number: 3
Conditions: To be offered on the basis of high academic standing to students who are Canadian Citizens, who have completed Grades X, XI and XII in Alberta.
Donor: Endowed by the Robert Tegler Trust.
Apply: Director of Student Awards by July 15.

The Robert Tegler Special Bursaries

Field: Open
Value: Tuition and fees plus $300
Number: 3
Conditions: Available to physically handicapped students. Must be Alberta residents. While due weight will be given to the academic record of candidates, special consideration will be given to their background, financial need, nature of handicap, personal qualities, and other relevant points. The scholarship may be awarded to the same student a second time, or even throughout the whole undergraduate program. A medical certificate must be provided to the Student Awards Office.
Donor: Endowed by the Robert Tegler Trust.
Apply: Director of Student Awards by July 15.

The Lloyd Thomas Award in Music

Field: Music (Clarinet)
Value: Approx. $300
Conditions: To be awarded annually to a student entering the first year of the Baccalaureate of Music program at the University of Alberta on the basis of musical merit and academic standing.
Donor: Endowed by Ms Alice MacKinnon, in memory of

her brother, Mr Lloyd Thomas, a former student in the Department of Music.
Apply: By nomination from the Department of Music. Selection will be made by the department following auditions for admission to the program.

The Henry Marshall Tory Bursary

Field: Open
Value: $1,000
Number: 1
Conditions: Awarded annually to a Canadian Citizen or Permanent Resident (Landed Immigrant) entering any Faculty at The University of Alberta on the basis of satisfactory academic standing and financial need.
Donor: Endowed through the General Alumni Association of The University of Alberta in memory of the late Dr Henry Marshall Tory, first President of The University of Alberta (1908-1928).
Apply: Director of Student Awards by July 15.

The TransAlta Utilities Matriculation Scholarships

Field: Open
Value: $750
Number: 5
Conditions: Awarded annually to matriculating students entering first year at The University of Alberta whose homes are in areas served by TransAlta Utilities Corporation either directly or indirectly.
Donor: TransAlta Utilities Corporation in memory of GH Thompson, late Chair of the Board of TransAlta Utilities Corporation, and devoted friend of the University.
Apply: Director of Student Awards by July 15th.

The Trans Mountain Pipe Line Company Ltd Scholarships

Field: Engineering or the Physical Sciences
Value: $350 each
Number: 3
Conditions: Offered to students whose homes are along the route of the Trans Mountain Pipe Line in Alberta from Edmonton west to the provincial boundary. Preference will be given to students from outside the city of Edmonton.
Donor: Trans Mountain Pipe Line Company Ltd.
Apply: Director of Student Awards by July 15.

The University of Alberta Matriculation Scholarships

Field: Open
Value: $1500 each
Number: Variable
Conditions: Open to students entering first year at The University of Alberta. The basis of the award will be academic standing.
Donor: The Escheated Estates Fund of The University of Alberta.
Apply: Director of Student Awards by July 15.

The University of Alberta Matriculation Prizes

Field: Open
Value: $200
Number: Variable
Conditions: To be awarded to students of outstanding academic merit entering first year and who have not received any other major award.
Donor: The Escheated Estates Fund of The University of Alberta.
Apply: Director of Student Awards by July 15.

The University Women's Club of Edmonton Scholarship

Field: Open
Value: $2,400, payable $1,400 entering first year and $1,000 on entering second year
Conditions: Awarded annually, on the basis of high academic standing to a student entering the first year of a degree program at The University of Alberta. The recipient must have achieved at least an 85% average on the required Grade XII examinations in Alberta and must achieve a grade point average of 6.5 for the second installment.
Donor: Endowed by the University Women's Club of Edmonton.
Apply: Director of Student Awards by July 15.

The Mildred Rowe Weston Memorial Bursaries

Field: Open
Value: $600 each
Number: 3
Conditions: To be awarded annually on the basis of high academic standing and financial need to students from rural Alberta. Preference will be given to students having completed courses through the Alberta Correspondence School.
Donor: Endowed through the Will of the late Mildred Rowe Weston.
Apply: Director of Student Awards by July 15.

The Rosa H Wolters Bursary

Field: Open
Value: A number of awards totalling $800
Conditions: To be awarded annually to students entering any year of an undergraduate program on the basis of academic standing. The award is restricted to students who graduate from a high school in the County of Vermillion Valley #24.
Donor: Mrs Rosa H Wolters of Edmonton, Alberta.
Apply: Director of Student Awards. Matriculants by July 15, Undergraduates by June 3.

The Symphony Women's Educational Assistance Matriculation Scholarship

Field: Music
Value: $450
Conditions: Offered to a student entering the Bachelor of Music program with intent to major in orchestral instruments. Award will be based on academic standing and musical merit.
Apply: Selection will be made by the Department of Music.

The Max Wyman Undergraduate Entrance Scholarship

Field: Open
Value: $5,000.00
Number: 7
Conditions: Open to individuals who are contemplating admission to the first year at the University of Alberta in any faculty during the following twelve months. These scholarships are also available to college students entering the University of Alberta. Candidates must be in the top 10% of applicants academically, and must have demonstrated extra-curricular and community involvement.
Donor: University Endowment Funds
Apply: By March 15 using the University of Alberta Leadership Awards Form available from high school guidance counsellors, college awards offices, or the Office of Student Awards.

222.1.3 Awards From Other Sources

Alberta 4-H Further Education Awards

Field: Agriculture or Home Economics
Value: Variable
Number: Variable
Conditions: There are a number of university entrance awards provided by donors such as the Alberta Wheat Pool, the Pennington Memorial Trustee, the Women of Unifarm, and the Canadian National Exhibition which are available to present or former 4-H members.
Apply: Application forms are available from Regional Representatives or the 4-H Branch, Alberta Agriculture.

Nickle Family Foundation Fellowship Peter H. Denham Memorial Fellowship Canadian Mathematical Society Fellowship

Field: Open
Value: $500 (towards university tuition), $250 and $150
Number: 3
Conditions: These Fellowships are awarded by the Alberta High School Mathematics Prize Examination Board on the basis of performance in a scholarship examination held at local schools on the third Tuesday in February. Candidates must first qualify through a Prize Examination held at local schools on the second Tuesday in November. Recipients of the Fellowships must be citizens or Landed Immigrants of Canada. In addition, the recipient of the Nickle Family Foundation Fellowship must enroll full-time in the coming fall at an Albertan university.
Donor: The Nickle Family Foundation. The Peter H Denham Memorial Fund in Mathematics. The Canadian Mathematical Society.
Apply: The AHSMPE Board will send out in late September or early October to all high schools in Alberta and the North West Territories a call for applications to the Prize Examination. Candidates should apply through their principals.

Note: The Prize Examination carries separate book prizes to schools as well as to individual students. Top performers in the Scholarship Examination will be nominated to write the Canadian Mathematical Olympiad (administered by the Canadian Mathematical Society) which carries among many awards a top prize of $1,000, plus berths on the national team which competes in the prestigious International Mathematical Olympiad.

The Masonic Bursaries

Field: Open
Value: Up to $700 each
Number: Variable
Conditions: Open to students from Alberta high schools on the basis of academic standing and financial need. They may be renewed subject to satisfactory standing and continued financial need.
Where tenable: Any university in Alberta or affiliated college or any other university if the program is not available in Alberta.
Apply: Apply to the Grand Secretary, Grand Lodge of Alberta, AF and AM, 330-12 Avenue SW, Calgary. Application forms for new awards or renewals must be completed and returned by April 30.

The Alexander Rutherford Scholarships for High School Achievement

Field: Open
Value: Up to $1,500
Number: Variable
Conditions: Named in honor of Alberta's first Premier and Minister of Education, these scholarships are based on academic achievement in Grades 10, 11 and 12. Scholarships of up to $1,500 may be awarded for postsecondary study at colleges, technical schools, or universities.
Donor: The Alberta Heritage Scholarship Fund
Apply: By July 1 for September entry and December 1 for January entry, to the: Director, Alberta Heritage Scholarship Fund, Students Finance Board, 10th Floor, Baker Centre, 10025 - 106 Street, Edmonton, Alberta, T5J 1G7.

222.2 Undergraduate Awards

222.2.1 General Information

Application forms for awards which require application may be obtained from the Student Awards Office. For undergraduates the due date for completed application forms in most cases is June 3. Where no application information is listed, the award is made automatically without application.

Normally, unless otherwise stated, these awards are based on the grade point average obtained on a full normal load of academic work (30 units of course weight or as defined by the Faculty) done only at this University during the preceding Winter Session (September to April). Where an award is listed in a particular Faculty, it is generally tenable in that Faculty (except course prizes which are open to any full-time student in that course). In order that funds be broadly distributed, no undergraduate student may hold more than one University of Alberta major award in any one year. The minimum value of a major award shall be determined by the Undergraduate Awards and Scholarship Committee and reviewed by that Committee. The current minimum value of a major award is approximately $2,500.

Eligibility for the following existing academic awards is open to all undergraduate students, based upon outstanding academic merit: Faculty Club Scholarship, Peter Lougheed Scholarships, Lou Hyndman Edmonton Glenora Scholarships, Arthur Scroggie Scholarship, University of Alberta Undergraduate Prizes, University of Alberta Undergraduate Scholarships, and Louise McKinney Scholarships. Students who are enrolled in less than a full-course load are allowed to apply for these awards when they have accumulated the equivalent of a full, normal course load as defined by the Faculty. For awards purposes, all those courses taken in the terms used to accumulate the minimum number of courses for a full, normal course load will be used to calculate the awards GPA. In the case of the Leadership awards, the policies and procedures will be adjusted so that students meeting the academic and leadership criteria are assured that they will have at least one opportunity to apply during their academic careers.

Awards will be announced as they are made from May through to September.

Unless otherwise stated, monetary awards, except certain cash prizes, are contingent upon the student's proceeding with his or her university program in the immediate next academic session, and are payable only when the student is in actual full-time attendance at the University. The payment of tuition fees is a first charge against such awards.

The University assumes liability for the payment of scholarships, bursaries, prizes, and other awards only to the extent that gifts from donors or returns from particular investments for these purposes will permit. For matriculation awards, refer to §222.1. For awards in graduate study, refer to §224 or the Graduate Studies and Research section of this Calendar.

222.2.2 List of Awards

The Alberta Energy Company Ltd. Scholarships

Field: Petroleum Engineering, Economics, Geology
Value: $2,000 each
Number: 3 (one in each program)

onditions: To be awarded annually on the basis of outstanding scholarship to Canadian students or Permanent Residents, who have completed the third year of studies in the four-year Honors or Specialization degree programs of Petroleum Engineering, Economics, or Geology.
onor: The Alberta Energy Company Ltd.
pply: By nomination by Faculty/Department.

he Matthew J Ashton Leadership Prize

ield: Marketing, Business Economics, or Political Science
alue: $500
umber: 1
onditions: To be awarded annually to a student in any year of an undergraduate program on the basis of superior academic achievement and demonstrated interest in the fields of marketing, business economics or political science. Preference is to be given for elected participation in university clubs, associations, and/or student government.
onor: Endowed by friends and family of the late Matthew J Ashton.
pply: Director of Student Awards by October 15 on the University of Alberta Leadership Awards application form.

he ATRC Telecommunications ndergraduate Research Awards

ield: Development of engineering applications in telecommunications through disciplines of engineering, computing science and other fields.
alue: Current value ranges from $2400 to $3000 per year, plus travel if necessary.
lumber: Variable
onditions: Awarded to Canadian students completing the 3rd year or 4th year of undergraduate study and receiving a NSERC Undergraduate Summer Research Award. Candidates must carry out their work at ATRC. Selection based on superior academic achievement.
onor: The Alberta Telecommunications Research Centre (ATRC).
pply: Mr WL Olsen of the Alta Telecommunications Research Centre. #200, 4245 - 97 Street, Edmonton, Alberta T6E 5Y4.

he BP Canada Scholarship

ield: Geology, Geography, Cartography, Meteorology, Geophysics, Soil Science, Engineering, Business, or Economics
alue: $1,000
lumber: 1
onditions: To be awarded annually to a student enrolled in one of the following areas: Geology, Geography, Cartography, Meteorology, Geophysics, Soil Science, Engineering, Business, or Economics, on the basis of superior academic standing.
onor: BP Canada Inc.
pply: Director of Student Awards by June 3.

he Eugene Brody Scholarship

ield: Open
alue: $1,000
umber: 1
onditions: To be awarded to an undergraduate student on the basis of academic standing, financial need, and participation in extra-curricular activities of the University.
onor: Escheated Estates Fund or The University of Alberta.
pply: Director of Student Awards by June 3.

he City of Edmonton Undergraduate cholarships

ield: Open
alue: $500
umber: 2
onditions: To be awarded annually on the basis of satisfactory academic standing to students whose permanent residence is the City of Edmonton.
onor: The City of Edmonton.
pply: Director of Student Awards by June 3.

he Comco Pipe & Supply Company cholarship

ield: Business or Engineering
alue: $1,500
umber: 1
onditions: To be awarded annually on the basis of high academic standing to a student entering the third or fourth year of a bachelor degree program in Engineering or Business. Consideration will be given to applicants who specify an interest in resource development industries.
onor: Comco Distributors Ltd.
pply: Director of Student Awards by June 3.

he Florence E Dodd Prize

ield: Open
alue: $300
umber: 1
Conditions: To be awarded annually to an undergraduate student on the basis of academic standing, and participation in extra-curricular activities at the University.
Donor: Endowed anonymously in memory of Miss Florence Dodd, who for a number of years was Advisor to Women Students at the University of Alberta.
Apply: Director of Student Awards by June 3.

The Clare Drake Hockey Awards

Field: Open
Value: $1,500
Number: Variable
Conditions: Offered annually to students registered full-time in a degree program at the University of Alberta. Students must have a matriculation average of at least 75% from any high school in Canada or the United States, or the equivalent of a GPA of at least 6.5 at the University level. Recipients must be members of the Golden Bears hockey squad.
Donor: Endowed by the University of Alberta Golden Bears Hockey Alumni Association.
Apply: By nomination from the Department of Athletics.

The Edmonton Ladies Quarterback Club Scholarship

Field: Open
Value: $600
Number: 1
Conditions: To be awarded annually to a student entering second or third year of an undergraduate program on the basis of academic standing. Applicants must have been a member of the University of Alberta Golden Bears football team or an Edmonton junior football team.
Donor: Endowed by the Edmonton Ladies Quarterback Club.

The Edmonton Society of Pharmacists Scholarship

Field: Pharmacy
Value: $500
Conditions: Awarded annually to a student of outstanding merit on the required Grade XII subjects. The student must have carried out the work of Grade XII in that part of Alberta north of a line from Rocky Mountain House to Red Deer to Coronation and including those centres.
Apply: Director of Student Awards by June 3.

The Faculty Club Scholarship

Field: Open
Number: 1
Value: $300
Conditions: Offered annually to an undergraduate student entering second, third or fourth year on the basis of superior academic achievement and financial need.
Donor: Endowed by participants of the annual "Faculty Club Fun Run".
Apply: To Director of Student Awards by June 3.

The Filipino Canadian Saranay Association Scholarship

Field: Open
Value: $500
Number: 1
Conditions: To be awarded annually on the basis of superior academic achievement to a student who has demonstrated interest and aptitude in topics covering Philippine interests.
Donor: Endowed by the Filipino Canadian Saranay Association, Edmonton, Alberta.
Apply: Candidates for this award will be nominated by the Departments of History and Anthropology on the basis of performance in courses offered by those departments which concentrate in Philippine studies. Final selection will be made by the Undergraduate Scholarship Committee.

The Roberta Jean and Don Fox Scholarship

Field: Open
Value: $500
Number: 1
Conditions: To be awarded annually to an undergraduate student on the basis of superior academic achievement and financial need.
Donor: Endowed by Bob and Janette Fox in honor of Bob's parents, Roberta Jean and Don Fox, of Eugene, Oregon.
Apply: Director of Student Awards by June 3.

The German Academic Exchange Scholarship

Field: Open
Value: Tuition fees and living allowance for ten months beginning October 1.
Conditions: Applicants must be Canadian Citizens, have a first degree by the date of tenure, be not more than 32 years of age, and be sufficiently fluent in the German language.
Where tenable: At a German university or academy of art or music.
Donor: The Federal Republic of Germany.
Apply: By letter to the Director of Student Awards by November 1. Letter should include academic background, study plans in Germany and projected plans after return.

The Governor General's Silver Medal

Field: Open
Number: 1
Conditions: Awarded to the undergraduate student who achieves the
highest academic standing in his/her Bachelor degree program.
Donor: His Excellency, the Governor General.
Apply: By nomination from faculties.

Green and Gold Athletic Society Award

Field: Open
Value: $1,500
Number: 12
Conditions: To be awarded annually to twelve student athletes who exhibit high standards of moral character, scholastic ability, leadership, athletic talent, and ability. Applicants must be attending a full-time program of studies at the University of Alberta and be members of the University of Alberta Golden Bears or Pandas Basketball or Volleyball teams.
Donor: The Green and Gold Athletic Society.
Apply: To the Director of Student Awards by September 15.

The Lou Hyndman Edmonton Glenora Scholarship

Field: Law, History, Political Science, Education, Business, Economics, Canadian Studies, or Women's Studies.
Value: $4,000 for each of the last two years of the degree program.
Number: 2 new awards per year.
Conditions: These scholarships are awarded on the basis of academic achievement and demonstrated community service. The first year of the award may be taken away from the University of Alberta to another university in Canada or elsewhere. Renewal of the award for the second year is contingent upon satisfactory academic standing on a full, normal course load during the first year of the award. For the 1991 competition only, students registered in the fourth year of Canadian Studies or Women's Studies with minors in Political Science or History will be eligible to apply.
Donor: Endowed by the Trustees of the Lou Hyndman Campaign Trust Fund on behalf of the Edmonton Glenora Progressive Conservative Association.
Apply: Director of Student Awards by October 15 on the University of Alberta Leadership Awards application form.

The India Community Prize

Field: Open
Value: $250
Number: 1
Conditions: To be awarded annually to an undergraduate student of outstanding merit at the end of first year of any Faculty in the University. Financial need may be taken into consideration.
Donor: Endowed by the India Community in Alberta.
Apply: Director of Student Awards by June 3.

The Joseph and Melitta Kandler Scholarships for International Student Exchange with Austria

Field: To be assigned from time to time for the benefit of individual faculties for periods of several years.The initial period of four years (1989-1992) is assigned to the Faculty of Business for support of students intending to study for one year at the Wirtschaftsuniversitaet Vienna, Austria.
Value: $1000
Number: 2
Conditions: To be established by the respective faculties.
Donor: Dr Joseph Kandler, a native of Vienna, and a graduate of the Hochschule fuer Welthandel, now named Wirtschaftsuniversitaet Vienna, is a former member of the Senate and Board of Governors of the University of Alberta. Melitta Kandler began her studies at the University of Graz, Austria and graduated with an MA from the University of Alberta.
Apply: The International Student Centre, in consultation with the respective undergraduate Dean's office.

Killam Exchange Scholarships with France

Field: Open
Number: 3
Conditions: Each year the University of Alberta recommends to the Government of France three graduating students for positions as "Assistants" in either secondary or post-secondary French educational institutions. The students participate in this cultural exchange for nine months (October-June). The rate of pay is subsistence level, often lodging and meals can be obtained at a reduced rate. Proficiency in written and oral French is required. The applicant must be a Canadian Citizen under 30 years of age and a resident of Alberta for the past five years.
Donor: The Killam General Endowment Fund and the Government of France.
Apply: Director of Student Awards by December 1.

The Adam Kryczka Memorial Hockey Award

Field: Open
Value: $1,400
Number: 1
Conditions: Awarded annually to a student registered full-time in a degree program at the University of Alberta. Candidates must have a matriculation average of at least 75% from any high school in Canada or the United States, or the equivalent of a GPA of at least 6.5 at the university level. Recipient must be a member of the Golden Bears hockey squad, and preference will be given to goaltenders.
Donor: Endowed by friends of Adam Kryczka and the Kryczka family.
Apply: By nomination from the Department of Athletics.

The Peter Lougheed Scholarship

Field: Open
Value: $5,000 (This award will be renewable for a second year, subject to continued satisfactory academic achievement.)
Number: 10 distributed as follows: one in Science, or Agriculture and Forestry, or Home Economics; one in Law; one in Engineering or Business; one in Medicine, or Dentistry, or Nursing, or Pharmacy; one in Education; one in Physical Education and Recreation, or Faculté Saint-Jean, or School of Native Studies; two in Arts; two unassigned.
Conditions: To be awarded each year on the basis of superior academic achievement and community leadership to a student entering the final two years of his or her program.
Donor: University Endowment Funds.
Apply: To Director of Student Awards by October 15 on the University of Alberta Leadership Awards application form.

The Samuel J McCoppen Bursaries

Field: Open
Value: A number of awards totalling $6,000 annually
Number: Variable
Conditions: Awarded to undergraduates who are in need and have a high academic standing.
Donor: The will of the late Samuel J McCoppen.
Apply: Director of Student Awards by June 3.

The Louise McKinney Postsecondary Scholarships at the University of Alberta

Field: Open at Undergraduate Level
Value: $3,000 or $6,000
Number: Approximately 215
Conditions: To be awarded on the basis of outstanding academic attainment (top 1.5 – 2% of faculty standing) to students at the University of Alberta who are also Alberta residents. Successful candidates will be nominated for the award by the undergraduate scholarship committee of the University of Alberta. Students completing a degree program and continuing on in a professional program must apply to the Student Awards Office by June 3. Students not enrolled in a full, normal course load must also apply to the Student Awards Office by June 3. Students in extended professional programs may be eligible for awards of $6,000 value.
Donor: The Alberta Heritage Scholarship Fund
Apply: By nomination from Faculty/Department.

The Millar Western Transfer Scholarships

Field: Open
Value: $2,500
Number: 2
Conditions: To be awarded annually to former graduates of Alberta high schools who are transferring from an affiliated Alberta college to an undergraduate degree program at the University of Alberta. Recipients will be chosen on the basis of superior academic achievement, leadership abilities, extra-curricular activities, and community involvement. A minimum of 2 awards in the Millar Western Award Program (more than 20 in total) will be reserved for individuals graduating from a high school in the Whitecourt area.
Donor: Endowed by Millar Western.
Apply: March 15 using the University of Alberta Leadership Award Application Form available from College counselling offices or the Office of Student Awards at the University of Alberta.

The National Association of Corrosion Engineers Student Prize

Field: Mineral Engineering
Value: $300
Number: 1
Conditions: To be awarded annually to an undergraduate student selected on the basis of superior academic achievement in Mineral Engineering 545 (Corrosion and Oxidation) at the University of Alberta.
Donor: The National Association of Corrosion Engineers, Edmonton Section
Apply: Candidates will be selected by the Department of Mining, Metallurgical and Petroleum Engineering.

The Norcen Energy Resources Scholarships

Field: Geology, Geophysics, Engineering, Mechanical Engineering, and Chemical Engineering
Value: $1,500
Number: Ten distributed as follows: two in Chemical Engineering, two in Mechanical Engineering, one in Geology, one in Geophysics, and four in Petroleum Engineering (two for co-op students, and two for non co-op students).
Conditions: Offered annually to undergraduate students proceeding to either the 2nd, 3rd or 4th year of full-time studies in either chemical engineering, geophysics, geology, petroleum engineering or mechanical engineering. Selection will be on the basis of superior academic achievement with consideration given to community involvement, extra-curricular activities, and demonstrated leadership potential. In the case of a tie, the final decision will be based on financial need. Recipient must be a Canadian Citizen or Permanent Resident.
Donor: Norcen Energy Resources Limited.
Apply: By nomination from the department.

The Prime Evils Athletic Association Award

Field: Open
Number: Up to 6
Value: $300 each
Conditions: To be awarded annually to two students entering each of second, third and fourth year. Based on "honest endeavor", they are to be awarded to students living in North East Edmonton.
Donor: Endowed by the Prime Evils Athletic Association
Apply: To the Office of Student Awards by June 3.

The AAD/Michael Rodda Award/Scholarship

Field: Open
Value: $500
Number: Variable
Conditions: To be awarded annually to a deaf student who is entering or continuing in a program at the University of Alberta on the basis of academic excellence, financial need, and commitment as demonstrated to the deaf community by involvement in deaf community activities.
Eligibility criteria:
- preference will be given to Canadians, or Landed Immigrants who are residents of the Province of Alberta.
- applicants must have a minimum of 55 db hearing loss, or have sufficient deafness precluding their use of normal telephones.
- priority shall be given to users of the sign language of the deaf. Others may be considered.
- applicants must require interpreters as a primary mode of classroom communication.

Donor: Endowed by the Alberta Association of the Deaf in honor of Dr Michael Rodda in appreciation of his ongoing commitment to furthering awareness of the deaf community and the development of educational programs for the deaf.
Apply: The Office of Disabled Student Services.

The Dr Horst A Schmidt Travel Bursary

Field: Open
Number: Variable
Value: Up to $950
Conditions: To be awarded annually to a University of Alberta undergraduate student to aid in the costs of travel for an international academic exchange. Institution must be one with which the University of Alberta has an agreement.
Donor: Endowed by the friends of Dr Horst Schmid.
Apply: (1) Students interested in an exchange apply to the International Centre or the appropriate faculty or department; (2) Successful applications are forwarded to the Office of Student Awards for selection of the travel bursaries.

The Arthur Scroggie Scholarship

Field: Open
Value: $600
Number: 1
Conditions: Open to deserving students on the basis of academic standing in any Faculty and in any year, provided the student is returning in the immediate next academic session in a full-time undergraduate program.
Donor: The Estate of Dr AG Scroggie.
Apply: Director of Student Awards by June 3.

The Henry Singer Memorial Bursaries

Field: Open
Value: $1,000
Number: 5
Conditions: To be awarded annually on the basis of scholastic ability and financial need to five students who exhibit high standards of moral character combined with hockey talent and athletic ability.
Donor: The Edmonton Oilers Hockey Club and the Henry Singer Memorial Bursary Fund.
Apply: By nomination from Faculty/Department.

The Kennett Y Spencer Memorial Scholarship

Field: Open
Value: $800
Number: 1
Conditions: Open to residents of the north (Northern Alberta as defined by Northern Alberta Development Council Area, Northwest Territories and Yukon.) The award will be granted annually to a senior undergraduate or graduate at the University of Alberta for high academic attainment and original research carried out in any discipline pertaining to northern studies.
Donor: Endowed through the will of the late Kennett Y Spencer.
Apply: By nomination from the Boreal Institute for Northern Studies at the University of Alberta.

The Robert Tegler Special Bursaries

Field: Open
Value: Tuition and fees plus $300
Number: 3
Conditions: Available to physically handicapped students. Must be Alberta residents. While due weight will be given to the academic record of candidates, special consideration will be given to their background, financial need, nature of handicap, personal qualities, and other relevant points. The scholarship may be awarded to the same student a second time, or even throughout the whole undergraduate program. A medical certificate must be supplied to the Student Awards Office.
Donor: Endowed by the Robert Tegler Trust.
Apply: Director of Student Awards by June 3.

The Robert Tegler Undergraduate Bursaries

Field: Open
Value: Tuition and fees
Number: 6
Conditions: To be offered on the basis of academic standing and to students in any year and any Faculty provided the recipient returns in the immediate next session as a full-time undergraduate student. Recipients must be Canadian Citizens and have completed Grade XII in Alberta.
Donor: Endowed by the Robert Tegler Trust.
Apply: Director of Student Awards by June 3.

The University of Alberta Alumni Association Grande Prairie Branch Prize

Field: Open
Value: $300 (the amount may vary depending on the interest earned
on the endowment)
Number: 1
Conditions: To be awarded annually to a student of superior academic achievement transferring to the University of Alberta from Grande Prairie Regional College. The award will be based on the academic record of the student in the last full year of attendance at Grande Prairie Regional College.
Donor: Endowed by the University of Alberta Alumni Association Grande Prairie Branch.
Apply: By nomination from Grande Prairie Regional College.

The University of Alberta Prizes for Affiliated Colleges

Field: Open
Value: $200
Conditions: Offered to the student or students transferring from each of the affiliated colleges to the University of Alberta, who have the best academic average at the time of transfer from first to second year and/or the transfer from second to third year. The average must be based on a full normal academic load. Such students must be registered full-time in the immediate next session at The University of Alberta. In cases of equal standing full prizes will be paid to each.
Donor: The Escheated Estates Fund of the University of Alberta.
Apply: By nomination from Faculty/Department.

The University of Alberta Undergraduate Prizes

Field: Open
Value: $200
Number: Variable
Conditions: To be awarded in recognition of outstanding academic merit to students who have not received any other awards.
Donor: The Escheated Estates Fund of the University of Alberta.
Apply: Director of Student Awards by June 3.

The University of Alberta Undergraduate Scholarships

Field: Open
Value: Variable
Number: Variable
Conditions: Open to students on the basis of academic standing in any Faculty and in any year, provided the student is returning in the immediate next academic session in a full-time undergraduate program.
Donor: The Escheated Estates Fund of The University of Alberta.
Apply: Director of Student Awards by June 3.

The Rosa H Wolters Bursary

Field: Open
Value: A number of awards totalling $1000
Conditions: To be awarded annually to students entering any year of an undergraduate program on the basis of academic standing. The award is restricted to students who graduate from a high school in the County of Vermillion Valley #24.
Donor: Miss Rosa H. Wolters of Edmonton, Alberta.
Apply: Director of Student Awards. Matriculants by July 15, undergraduates by June 3.

The Amy and Yuen Wong Scholarship

Field: Open
Value: $750
Number: 1
Conditions: To be awarded annually to an undergraduate student who is a Canadian Citizen with superior academic achievement.
Donor: Endowed by Amy and Yuen Wong.
Apply: To the Office of Student Awards by June 3.

222.2.3 Awards From Other Sources

The Alberta Wheat Pool Bursaries for Rural Students

Field: Open
Value: $600 per year for up to five undergraduate years.
Number: Four, one each in the following zones: Zone 1 - that part of Alberta north of the 49th parallel and including township 26, and that area of BC tributary to Creston; Zone 2 - that part of Alberta north of township 26 including township 42; Zone 3 - that part of Alberta north of township 42 and including township 58; Zone 4 - that part of Alberta and BC block north of township 58 to the 59th parallel.
Conditions: Offered to matriculants from Alberta high schools whose parents are actively engaged in farming. Basis of the award will be matriculation standing and financial need. Preference will be given to applicants entering the Faculty of Agriculture or the Faculty of Home Economics. An average of 6.0 is required for renewal.
Where Tenable: At any university in Alberta or affiliated college.
Apply: Extension Manager, Alberta Wheat Pool by August 15.

The City of Calgary Undergraduate Scholarships

Field: Open
Value: $750 each
Number: 2
Conditions: Offered annually to Calgary students entering second year at any approved university. Awarded on academic standing and financial need.
Apply: The City of Calgary Undergraduate Scholarship application forms are available at the Student Awards Office, The University of Calgary, or the Director of Finance, P.O. Box 2100, Calgary, and should be returned to Director of Finance, City of Calgary by July 10.

The Eva Johnson Memorial Scholarship

Field: Open
Value: $500
Number: 1
Conditions: Open to Commonwealth students, other than Canadian Citizens or Landed Immigrants, who have successfully completed the first two years of a baccalaureate program at the University of Alberta. A GPA of not less than 7.5 on five FCE taken in the last regular session is required. Courses taken in Spring or Summer Sessions will not be counted.
Donor: The Royal Overseas League (Edmonton Branch).
Apply: International Centre, 172 HUB International, by November 30th.

223 Awards by Faculty

223.1 Introductory Note

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.2 Faculty of Agriculture and Forestry

223.2.1 Undergraduate Awards

Note: Medals and awards to graduating students are listed first. All other awards are listed alphabetically.

The Alberta Institute of Agrologists Medal

Field: Agriculture
Conditions: Awarded to a graduating student primarily on the basis of academic standing for the final two years in the BSc Agriculture program which must be not less than 7.0. Consideration may be given to qualities of leadership, personality, and character.
Donor: Alberta Institute of Agrologists. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The APEGGA Medal in Agricultural Engineering

Field: Agricultural Engineering
Number: 1
Conditions: Awarded to a student graduating from the Agricultural Engineering program. The basis for selection will be the academic record of the third and fourth years combined, which must be a grade point average of not less than 7.5. The right is reserved to withhold the awarding of the medal.
Donor: The Association of Professional Engineers, Geologists, and Geophysicists of Alberta.
Apply: By nomination from Faculty/Department.

The Canadian Institute of Forestry Medal

Field: Forestry
Conditions: Awarded to a graduating Forestry student on the basis of an outstanding record of scholarship, citizenship, leadership, and participation in student activities throughout all years of the Forestry program.
Apply: By nomination from Faculty/Department.

The Gold Medal in Food Science

Field: Food Science
Value: Gold Medal
Number: 1
Conditions: Awarded to the graduating student from the Faculty of Agriculture and Forestry, who has shown the highest distinction in scholarship over the final two years in the BSc Food Science program and who has shown superior academic achievement in the final year. Consideration may be given to qualities of leadership, personality and character.
Donor: Endowed by the Canadian Institute of Food Science and Technology (Alberta Section); The Alberta Association of Milk, Food and Environmental Sanitarians; Members of the Food Processing Industry and other Friends of Food Science.
Apply: By nomination from Faculty/Department.

The American Society of Lubrication Engineers Book Prize

Field: Agricultural Engineering/Mechanical Engineering
Value: Book award worth approximately $300; specifically the ASLE's Handbook of Lubrication, Theory and Practice of Tribology (two volume set).
Number: 1
Conditions: To be awarded annually to a graduating student of either Agricultural or Mechanical Engineering on the basis of ability, aptitude, and interest in the area of lubrication. If there is no suitable candidate, no award will be made.
Donor: The Alberta Section of the American Society of Lubrication Engineers. The donor will provide the award directly to the student.
Apply: By joint nomination from the Departments of Agricultural Engineering and Mechanical Engineering.

The Frank A Coates Memorial Prize

Field: Horticulture
Value: $200
Conditions: Awarded annually to a student of outstanding merit graduating from the Faculty of Agriculture and Forestry who has specialized in Horticulture. Preference will be given to a student from a rural home.
Donor: Endowed by Mrs D Enilda Peers in memory of her father.
Apply: By nomination from Faculty/Department.

The Commonwealth Forestry Bureau Prize

Field: Forestry
Value: A one-year subscription to "Forestry Abstracts" plus a certificate
Number: 1
Conditions: To be awarded annually on the basis of academic standing and potential research interests to a graduating Forestry student.
Donor: The Commonwealth Forestry Bureau, England. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

Forest Biology Book Prize

Field: Forest Biology
Value: Book Award
Number: 1
Conditions: To be awarded to an outstanding graduating Forestry student on the basis of interest, ability, and aptitude in research and scholarship in an area of forest biology. The book will be selected by the Chair of the Department of Forest Science.
Donor: Anonymous.
Apply: By nomination from Faculty/Department.

The David Angus Graham Memorial Scholarship

Field: Silviculture
Value: About $200
Number: One
Conditions: Awarded to a graduating student in the Forestry program in recognition of high academic achievement in silviculture and related subjects. The recipient must have demonstrated interest in reforestation, shown evidence of concern for humanitarian principles and interest in fellow students, and shown promise for exemplary professional development.
Donor: Relatives, friends and foresters of the late David Angus Graham.
Apply: By nomination of Department in consultation with Forest Society.

The Charles and Louise Malmberg Scholarship in Agriculture

Field: Agriculture, specializing in soil, water and plant relationships
Value: $500
Number: 1
Conditions: Awarded annually on the basis of superior academic achievement and financial need to a student entering the fourth year of a Bachelor's program in the Faculty of Agriculture. The recipient must be registered to complete a project relating to soil conservation. Preference will be given to students from the dryland farming areas of Southeastern Alberta.
Donor: Endowed by Laura D Harrison, in honor of her parents, Charles and Louise Malmberg.
Apply: By nomination from the Faculty of Agriculture and Forestry.

The Laird W McElroy Memorial Scholarship

Field: Animal Science
Value: Up to $1,250 total
Number: One or two
Conditions: Awarded on the basis of superior academic achievement to a student entering third or fourth year of the Bachelor's program. Third year students must have successfully completed introductory biochemistry and physiology, and fourth year students must have successfully completed introductory nutrition. The third year award may be renewed on the basis of continued superior academic achievement.
Donor: Endowed through a bequest of the late Sophia A McElroy.
Apply: By nomination from the Faculty of Agriculture.

Rocky Mountain Section/CIF Award

Field: Forestry
Value: Cash award and citation
Conditions: Awarded to a graduating forestry student who has been a student member of the Canadian Institute of Forestry, who has actively participated in section affairs, has encouraged student membership and student participation in section affairs and has exemplified the high professional standards of the C.I.F. This will be an annual award when a suitable candidate is available.
Donor: Rocky Mountain Section, Canadian Institute of Forestry.
Apply: By nomination from Faculty/Department.

The Western Canadian Society for Horticulture Medal

Field: Horticulture
Value: Medal and a five-year membership in the Society
Conditions: Awarded annually to a student of outstanding merit graduating from the Department of Plant Science who has specialized in Horticulture. A gold medal will be given if 7.5 is achieved in the final year or a silver medal if 6.5 or better.
Donor: The Western Canadian Society for Horticulture. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Wood Science and Technology Prize

Field: Forestry
Number: 1
Value: $400
Conditions: To be awarded to an outstanding graduating forestry students showing promise in the study of wood science and technology, judged on the basis of academic standing in relevant courses, and demonstrated interest. The award will not necessarily be made every year.
Donor: Endowed by the WH Clark Lumber Co of Edmonton, and staff and friends of the University.
Apply: By nomination from Faculty/Department.

The Alberta Egg Producers Bursary

Field: Animal or Poultry Science
Value: $1,000
Number: 1

Conditions: To be awarded on the basis of high academic standing and financial need to a student entering fourth year of the BSc Agriculture program who is majoring in Animal or Poultry Science.
Donor: The Alberta Egg Producers Board.
Apply: Director of Student Awards by June 3.

Alberta Forest Service Scholarship

Field: Forestry
Value: $800
Number: 1
Conditions: Awarded to a student entering the fourth year of the BSc Forestry program based on academic attainment and personal qualities. Preference will be given to a student whose interests lie in integrated resource management.
Donor: Province of Alberta, Department of Energy and Natural Resources.
Apply: By nomination of Department.

The Alberta Horticultural Association Prize

Field: Horticulture
Value: $400
Conditions: Awarded annually to a student of outstanding merit entering the third or fourth year of Plant Science and specializing in Horticulture.
Apply: By nomination from Faculty/Department.

The Alberta Institute of Agrologists Scholarship

Field: Agriculture
Value: $600
Conditions: To be awarded to the student with the highest academic standing completing second year in a program leading to a BSc in Agriculture and proceeding to third year.
Apply: By nomination from Faculty/Department.

The Alberta Poultry Industry Council Scholarship

Field: Poultry Science
Value: $600
Conditions: Offered to a student entering third year of Animal Science who will be specializing in the study of poultry. The award will be based on the academic work of the first two years in the Faculty (a grade point average of at least 6.0). If no suitable candidate is available, the award may be renewed to the same student for the fourth year.
Apply: By nomination from Faculty/Department.

The Dan Baker Bursaries

Field: Agriculture or Forestry
Value: $800 each
Number: 2
Conditions: Offered to two students entering second, third or fourth year of the Faculty of Agriculture and Forestry on the basis of academic standing, financial need and personal character.
Donor: Endowed by the late Dan Baker of Edmonton.
Apply: Director of Student Awards by June 3.

The Eric R Berg Memorial Award

Field: Agriculture
Value: $180
Conditions: To be awarded to a student entering second, third or fourth year in the BSc Agriculture program. The award will be based on previous academic work and extracurricular activities, especially those related to the Faculty. Financial need may be taken into consideration. The Agriculture Club will be consulted in the selection.
Donor: The Agriculture Club in memory of the late Dr ER Berg, a member of the Faculty from 1962-1969.
Apply: By nomination from Faculty/Department.

The BP Canada Bursary

Value: $1,000
Number: 1
Conditions: To be awarded annually to a student enrolled in either of the following areas: Geology, Geography, Cartography, Meteorology, Geophysics, Soil Science, Engineering, Business, or Economics, on the basis of academic standing.
Donor: BP Canada Inc.
Apply: Director of Student Awards by June 3.

The Board of Governors Prizes in Agriculture and Forestry

Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first, second and third year of the Faculty. If two or more students are equal for first place each will receive a full award.
Donor: The Escheated Estates Fund of The University of Alberta.
Apply: By nomination from Faculty/Department.

The Canada Packers (Shur-Gain Division) Scholarship

Field: Agriculture
Value: $500
Conditions: Offered annually on the basis of academic standing and financial need to a student entering fourth year of the BSc Agriculture program with a preference to one who is majoring in a field of general interest to the livestock and feed industries.
Donor: Endowed by Canada Packers Inc.; Alberta Shur-Gain Division.
Apply: By nomination from Faculty/Department.

The Canadian Feed Industry Association (Alberta Division) Scholarship

Field: Animal Science
Value: $500
Conditions: Offered to a student entering third year of Animal Science with a special interest in nutrition and based on the student's record in second year Agriculture.
Donor: The Canadian Feed Industry Association.
Apply: By nomination from Faculty/Department.

The Canadian Forest Products Bursary in Forestry

Value: Tuition and fees
Conditions: To be awarded to a student entering second, third or fourth year of the BSc Forest Science program, on the basis of academic standing and financial need, provided a grade point average of at least 6.5 was achieved in the immediate previous year. The award will not be made if there are no suitable candidates in any one year.
Donor: Canadian Forest Products Limited, Grande Prairie, Alberta.
Apply: Director of Student Awards by June 3.

The Canadian Forestry Equipment Spring Camp Prize

Field: Forest Science
Value: $150 each
Number: 2
Conditions: Offered annually to students attending Spring Camp (Forestry 301), based on submission of the best reports for the Final Land Use Planning exercise. Selection will be made by the Camp Director, in consultation with staff involved with Spring Camp. Recipients of the award need not be members of the same team.
Donor: Canadian Forestry Equipment Limited, Edmonton, Alberta. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Canadian Society of Animal Science Book Prize

Field: Animal Science and Poultry Science
Value: $50
Conditions: To be awarded annually for outstanding merit to a student who is entering the final year of study of Animal and Poultry Science.
Donor: The Canadian Society of Animal Science, 151 Slater Street, Ottawa, Ontario K1P 5H4. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Percy Clubine Memorial Bursaries

Field: Agriculture or Forestry
Value: $700 each
Number: 4
Conditions: Offered annually to students completing first, second or third year in the Faculty of Agriculture and Forestry, on the basis of academic standing and financial need.
Donor: Endowed by the late Hazel L Clubine (through the Guaranty Trust Company of Canada).
Apply: Director of Student Awards by June 3.

The John, Richard, and Sam Copithorne Centennial Scholarship

Field: Agriculture
Value: $1,000
Number: 1
Conditions: To be awarded annually to an undergraduate student entering his/her third or fourth year in the BSc Agriculture program. The recipient must be a Canadian Citizen or Permanent Resident, be involved in extracurricular activities, and have high academic standing. In the case of a tie, the final decision will be based upon financial need.
Donor: The descendants of the John, Richard and Sam Copithorne families.
Apply: By nomination from Faculty/Department.

The Dean's Award for Agriculture-Forestry Undergraduate Exchange

Field: Agriculture and Forestry
Value: Round trip air fare (excursion rate) to the exchange institution
Number: 1
Conditions: Awarded annually to an undergraduate student with satisfactory academic standing. (GPA of at least 6.0).
Donor: Endowed by students and staff, Faculty of Agriculture and Forestry.
Apply: To the Dean's Office by April 1. Applications must include a curriculum vitae, a 200 word essay on the reasons for spending a year at another university, and an outline of the proposed program of study endorsed by the program adviser.

The Edmonton Northlands Scholarships

Number: Variable
Value: $1500 each
Conditions: To be awarded annually on the basis of high academic standing, to students enrolled in the Faculty of Agriculture and Forestry at the University of Alberta, and who are Permanent Residents of Alberta.
Donor: The Edmonton Northlands Endowment Program with matching income provided by the 1980 Advanced Education Endowment Fund.
Apply: By nomination from Faculty/Department.

The Roy Herbert Ennismore Scholarship in Agriculture

Field: Poultry Science
Value: $500
Number: 1
Conditions: To be awarded annually on the basis of superior academic achievement to a student graduating from the Faculty of Agriculture and Forestry with a specialization in Animal Science and a special interest in poultry.
Donor: Endowed by Mrs Chris G McElroy and Mrs Eva Bricker of Edmonton in memory of their father Roy Herbert Ennismore, a pioneer in the Egg and Poultry Marketing Services for the Federal Government.
Apply: By nomination from the Faculty of Agriculture and Forestry.

The Entomological Society of Alberta Prize

Value: $110
Conditions: Offered to a student majoring in Entomology, in any of the first three undergraduate years, who obtains a high standing in one or more courses in Entomology. The award is conditional on a satisfactory general record.
Donor: The Entomological Society of Alberta.
Apply: By nomination from Faculty/Department.

The Forest Society Award

Field: Forestry
Number: 1
Value: $200
Conditions: Awarded to a student entering the fourth year of the forestry program in recognition of the most improved grade point average from the second to third year of study. In case of a tie, involvement in the Forest Society and student affairs will be a deciding factor.
Donor: The Forest Society.
Apply: By nomination from Faculty/Department.

The Claude Gallinger Memorial Scholarship

Field: Animal Science
Value: $500
Conditions: Offered annually, on the basis of academic standing and financial need, to a student entering third or fourth years in the Department of Animal Science. Preference may be given to a married student.
Donor: Endowed by Miss Margaret Gallinger.
Apply: Director of Student Awards by June 3.

The Dr TW Grindley Memorial Bursary

Field: Agriculture
Value: $400
Conditions: To be awarded annually on the basis of academic standing and financial need, to a student completing third year of the BSc in Agriculture program, and proceeding into fourth year in the next following academic year.
Donor: Endowed in 1973 by Mrs Dorothy J Grindley of Edmonton, in memory of her late husband who obtained his BA in 1923 and BSc in Agriculture in 1925 from this University and who devoted his career to the benefit of Agriculture in Western Canada.
Apply: Director of Student Awards by June 3.

The Herbert and Jeanette Hall Scholarships in Forestry

Field: Forestry
Value: $500 each
Number: 3
Conditions: Offered annually to a student who will be entering each of the second, third and fourth years in Forestry. The basis of award is academic merit and financial need. Preference may be given to students born in Alberta.
Donor: Endowed by the late Herbert and Jeanette Hall.
Apply: By nomination of the Department of Forest Science.

The Douglas Farquhar Johnston Bursaries in Agriculture

Field: Animal Science
Value: $1,500 each
Number: 5

Conditions: Offered annually to five students entering third or fourth year of the Faculty of Agriculture and Forestry based on academic standing and financial need. Preference will be given to students in Animal Science.
Donor: Endowed by the late Mr DF Johnston
Apply: By nomination from Faculty/Department

The Ketchum Prize in Animal Science

Field: Animal Science
Value: $250
Conditions: Awarded to a student of outstanding merit and financial need completing the third year in the Department of Animal Science.
Donor: Ketchum Manufacturing Co Limited of Ottawa.
Apply: By nomination from Faculty/Department.

The NA Larsen Memorial Scholarship

Field: Food Science
Value: $500
Conditions: Offered annually to a student entering third or fourth year in a Food Science program including Food Chemistry, Food Microbiology and Food Technology with preference being given to a student specializing in Food Technology. The award will be based on scholastic attainment during the years preceding the award and financial need.
Donor: The Estate of the late Mr Larsen and the Central Alberta Dairy Pool.
Apply: By nomination from Faculty/Department.

The MacHardy-Stephanson Awards in Agricultural Engineering

Field: Agricultural Engineering.
Value: Approx. $700
Number: 1
Conditions: The awards, primarily based on academic standing, will be made to students entering the second year of the Agricultural Engineering program. Recipients must have a minimum GPA of 7.0.
Donor: Endowed by the staff and alumni of the Department of Agricultural Engineering, the Agricultural Engineering Club, and friends of the Department.
Apply: By nomination from the Department of Agricultural Engineering.

The Monsanto Scholarship

Number: 1.
Value: $500
Conditions: Offered annually to a student entering fourth year in the Faculty of Agriculture and Forestry with preference given to students specializing in plant science, soil science, agricultural economics or forest science. The award will be based on scholastic attainment during the years preceding the award.
Donor: Monsanto Canada Inc.
Apply: By nomination from Faculty/Department.

Seventy-Fifth Anniversary Scholarship in Plant Science

Field: Plant Science
Value: $750
Number: 1
Conditions: To be awarded annually to a student of high academic standing entering the third or fourth year in the Department of Plant Science.
Donor: Endowed by supporters of the Department of Plant Science, University of Alberta Seventy-Fifth Anniversary fund.
Apply: By nomination from the Department of Plant Science.

The Robert Simonet Undergraduate Scholarships

Field: Horticulture
Number: 2
Value: $1,000 each
Conditions: Awarded annually to students of superior academic achievement in Horticulture upon completion of the third and fourth years of studies. Students must be enrolled full-time in the Faculty of Agriculture and Forestry. To be eligible for the award at the end of the third year, students must have a cumulative GPA of 7 (all courses applied toward degree) with at least 7.5 on Plant Science courses. To eligible for the graduating award, cumulative GPA must not be less than 6.5. GPA on Plant Science courses, including Horticulture, should be at least 7.5. In addition, university related extracurricular activities and horticulturally related summer employment experience will be considered.
Donor: Endowed by Lillian and Robert Simonet.
Apply: By nomination from Faculty/Department.

The Robert David Sinclair Scholarship in Agriculture

Field: Agriculture
Value: Variable depending upon interest earned on endowment.
Number: 1
Conditions: To be awarded to the student with the highest academic standing entering the second year of a BSc (Agriculture) program at the University of Alberta.
Donor: Endowed by the family of the late Robert David Sinclair, former Dean of Agriculture.
Apply: By nomination from the Faculty of Agriculture in September.

The J Macgregor Smith Scholarship

Field: Agricultural Engineering
Value: $1,500
Number: 1
Conditions: To be offered annually on the basis of academic standing and financial need to a student enroled in the Agricultural Engineering program.
Donor: Endowed by the late Mrs Smith.
Apply: By nomination from the Department of Agricultural Engineering.

The Stetson Scholarships in Agriculture and Engineering

Field: Agriculture (excluding Forestry) and Engineering
Value: $2,500
Number: 2 - one award in Agriculture, and one award in Engineering.
Conditions: Awarded annually on the basis of academic attainment and financial need to students entering the third or fourth year of their program. Applicants must have been residents of Alberta for the previous five years.
Donor: The Scholarship was funded in recognition of the contribution made by Minot and Rosamond Stetson in the areas of agriculture and education in this province.
Apply: Director of Student Awards by June 3.

The Michael Swan Memorial Scholarship

Field: Forest Hydrology and Watershed Management
Value: $900
Number: 1
Conditions: To be awarded annually to a student entering the fourth year (consideration may be given to a student continuing in or completing fourth year) of the Forestry Program in the Faculty of Agriculture and Forestry at the University of Alberta, in recognition of superior academic achievement, interest in forest hydrology and watershed management, and support of the forestry profession. This will be an annual award when a suitable candidate is identified.
Donor: Endowed by the Swan family, fellow foresters, and friends of Michael Swan.
Apply: By nomination from the Faculty of Agriculture and Forestry, through the Department of Forest Science.

The WESTCO Scholarship

Field: Soil Science
Value: $1,000
Number: 1
Conditions: Offered annually on the basis of academic standing and financial need to a Canadian student entering third or fourth year in the Department of Soil Science.
Donor: The Western Co-operative Fertilizers Limited.
Apply: By nomination from Faculty/Department.

The Wetaskiwin Agricultural Society Leadership Award

Field: Agriculture
Value: $600
Number: 2
Conditions: Awarded annually to students in second, third, or fourth year of a degree program in the Faculty of Agriculture and Forestry at the University of Alberta. The recipients will be chosen on the basis of satisfactory academic achievement, leadership abilities, extracurricular activities, and community involvement. Recipients must be or have been residents of the county of Wetaskiwin for at least one year prior to enrollment at the University of Alberta. Financial need may also be a consideration.
Donor: Endowed by The Wetaskiwin Agricultural Society.
Apply: By nomination from the Faculty of Agriculture and Forestry.

The WR Zeidler Memorial Scholarship

Field: Forestry
Value: $500
Number: 3
Conditions: Awarded annually to a student of outstanding merit who will be entering each of the second, third and fourth years in Forestry. The basis of the award is academic standing and financial need. Preference will be given to students from Northern Alberta. Successful students may also be given the opportunity for summer employment in the WR Zeidler Forestry Operations.
Donor: Zeidler Forest Industries Ltd.
Apply: By nomination from Faculty/Department.

223.2.2 Awards From Other Sources

CLRA Forest Land Reclamation Award

Field: Forestry, Land Reclamation
Value: $100, certificate, one year membership in CLRA, free
Provincial Conference registration.
Number: 1
Conditions: Awarded to the top student in Forestry 475, "Vegetative
Reclamation of Forest Lands in Alberta."
Donor: Alberta Chapter of the Canadian Land Reclamation Association.
Apply: By nomination of Department of Forest Science.

Canadian Institute of Food Science and Technology

Field: Food Science
Value: $1,000 each
Number: 25 or more for Canada
Conditions: To be offered to students who are Canadian residents and who will be entering second, third or fourth year of a Food Science program at an approved university (including The University of Alberta). Awards will be based on academic standing with credit for related experience such as summer employment in the food and beverage industry. Application for renewal may be made.
Where tenable: At any Canadian university offering an approved program.
Donor: The Federal Department of Industry and Canadian companies in the food industry.
Apply: Chair of the Department of Food Science by April 1.

Canadian Wheat Board Awards

Value: $2,000 each in third year; $2,500 each in fourth year
Number: 4 in each year
Conditions: To be awarded to students who will be entering third or fourth year in a program leading to a BSc in Agriculture and who have completed one full year of academic study at a Canadian university. The awards, primarily based on academic standing, will be made to third and fourth-year students who are majoring in fields related to grain production and marketing. A student who receives an award in the third year of study will normally receive an award in the fourth year provided a "high level of academic achievement" is maintained.
Donor: The Canadian Wheat Board.
Apply: Dean of Agriculture and Forestry by April 1.

Halladay Memorial Student Award

Field: Any program related to recreation and parks
Value: Tuition
Number: 1
Conditions: Awarded annually to a student on any year who has contributed in an outstanding manner to recreation or parks in Alberta. Awarded on the basis of community involvement, participation in extra curricular activities, participation in special courses or workshops, work experience and academic standing.
Donor: Alberta Recreation and Parks Association.
Apply: By letter to Awards Committee, ARPA, Percy Page Centre, 13 Mission Avenue, St. Albert, Alberta, T8N 1H6. Letter should include resume, references from professors, agencies or employers, photograph for release purposes and grades based on official transcripts. Deadline May 31st.

Wajax Fire Science and Management Report Award

Field: Forest Science
Conditions: Wajax Limited will award cash prizes for the three most suitable reports written as part of undergraduate curriculum requirements in the field of forest fire control, managements and/or use.
First – $1,000
Second – $500
Third – $250
The report is to be 1,500 - 3,000 words, in French or English, using either the editorial format required by the University or the Canadian Journal of Forest Research.
One report to be selected by each Canadian Forestry School and forwarded to Wajax Limited by November 28, for judging by an independent three man committee.
The report must be written during the previous calendar year as part of undergraduate curriculum requirements. Graduating thesis will not be accepted. The competition is limited to students enrolled in an undergraduate forestry degree program.

223.3 Faculty of Arts

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.3.1 Undergraduate Awards

Note: Awards open to all students in the Faculty of Arts are listed under General Awards. Medals and awards

to graduating students are listed first. All other awards are listed alphabetically.

Awards in particular Arts subjects are listed by subject. They are open to students from any Faculty registered in the relevant course.

General Awards

The Dr John Macdonald Gold Medal in Arts

Value: 24kt Gold Medal
Conditions: Awarded annually to the graduating student from the BA (Honors) program in the Faculty of Arts who has shown the highest distinction in scholarship.
Donor: Endowed by Professor Douglas E Smith in memory of his late colleague, a former Head of the Department of Philosophy and Psychology and Dean of Arts and Science.
Apply: By nomination from Faculty/Department.

The Douglas E Smith Gold Medal in Arts

Value: 24 kt Gold Metal
Number: 1
Conditions: Awarded annually to the graduating student from the BA program, other than BA (Honors) who has shown the highest distinction in scholarship based on a course load of 30 units of course weight in each of the last three years of the program.
Donor: The Faculty of Arts.
Apply: By nomination from Faculty/Department.

The Faculty of Arts Honors Prize

Value: $200 each
Number: Up to 5
Conditions: To be awarded to graduands in the Honors program with the highest ranking GPA (on the total four-year program) other than the Governor-General's Medal winner. In no case will an Honors prize be given to someone whose GPA is not 8.0 or above.
Donor: The Faculty of Arts.
Apply: By nomination from Faculty/Department.

The Board of Governors Prizes in Arts

Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first, second and third years of the Faculty. If two or more students are equal for first place, each will receive a full award. Students in a graduating year of a program are not eligible.
Donor: The Escheated Estates Fund of the University of Alberta.
Apply: By nomination from Faculty/Department.

The Mary Cameron Douglas Memorial Scholarship

Value: $800
Number: 2
Conditions: Awarded on the basis of outstanding merit and financial need to a student who is entering fourth year honors in the Faculty of Arts.
Donor: Endowed by the late James McCrie Douglas of Edmonton.
Apply: Director of Student Awards by June 3.

The Earl of St Andrews Chapter Prize in Fine Arts

Field: Art and Design, Drama, Music
Value: $250
Number: 1
Conditions: To be awarded annually on the basis of high academic attainment to an undergraduate student in a Fine Arts degree program.
Donor: The Earl of St. Andrews Chapter of the IODE.
Apply: Director of Student Awards by June 3.

The Queen Elizabeth Scholarships in Canadian Studies

Field: Canadian Studies
Value: $1,000
Number: 10
Conditions: To be awarded annually to outstanding students who are entering their final year of any program with a major emphasis on Canadian society and culture, provided their academic records are otherwise satisfactory in the year of the award. Selection to be based on the number (minimum three full courses), variety and grade point average of Canadian content courses, at least two of which must be in the students' area of specialization. In order to be eligible for this scholarship a student must be a Permanent Resident of Canada and have been enrolled at a post-secondary institution in Alberta during the year immediately preceding the year for which the scholarship is to be awarded.
Donor: The Province of Alberta in recognition of the visit paid to the Province of Alberta in 1978 by Queen Elizabeth.
Apply: Chair, Canadian Studies Committee (For the advice of students wishing to qualify for this award, information on the Canadian Studies program, and course offerings in Canadian Studies, may be obtained from the Canadian Studies Office, #131 Trailer Complex I.

The Edmonton Section of the National Council of Jewish Women Prize

Value: $200
Conditions: Awarded to a student of outstanding merit completing the second year of an honors program, provided a grade point average of at least 7.0 is obtained.
Apply: By nomination from Faculty/Department.

The Friends of the University of Alberta Jeanne Sauve Undergraduate Scholarship

Field: Faculty of Arts
Value: $1200
Number: 1
Conditions: To be awarded annually to a student of superior academic
standing entering the third year of a BA degree program.
Donor: Endowed by the Friends of the University of Alberta.
Apply: Director of Student Awards by June 3.

The FT Jenner Memorial Prize in Canadian Studies

Field: Canadian Studies
Value: Variable, to a total of $5,000
Number: 1 or more
Conditions: To be awarded annually to students in the Canadian Studies program on the basis of academic merit, for further study of Canadian topics. The selection committee may also consider personal qualities which offer particular promise.
Where tenable: Any Canadian University.
Donor: Family & friends of the late FT Jenner. Selection will be made by Arts Faculty Standing Committee on Canadian Studies.
Apply: By nomination from Faculty/Department.

The Dr Geneva Misener Memorial Scholarship in Modern Languages

Field: Modern Languages
Value: $600 each
Number: 2
Conditions: To be awarded to a student of outstanding academic merit completing the third year of an honors program in Modern Languages.
Donor: Bequest of the late Dr Misener.
Apply: By nomination from Faculty/Department.

The President's Scholarships

Field: Arts, Science and Law
Value: $1,500 each
Number: 3, one in each of above Faculties
Conditions: To be offered on the basis of high academic standing and financial need.
Donor: Endowed in 1943 by the late Mr Justice HH Parlee.
Apply: Director of Student Awards by June 3.

The Frederick A Scherrer Bursaries

Field: Arts and Science
Value: $800 each
Number: 4, two in each of the above Faculties
Conditions: To be offered on the basis of academic standing and financial need.
Donor: Endowed by the late Dr FA Scherrer.
Apply: Director of Student Awards by June 3.

The Sunwapta Broadcasting Limited Scholarship

Field: Communications as related to the Broadcasting and Television Industry
Value: $200
Number: 1
Conditions: Open to students entering fourth year Electrical Engineering or Honors Physics, or entering third or fourth years in Arts who have an interest in journalism or script writing.
Donor: Dr GRA Rice.
Apply: Director of Student Awards by June 3.

Anthropology

The Filipino Canadian Saranay Association Scholarship

Field: Open
Value: $500
Number: 1
Conditions: To be awarded on the basis of superior academic achievement to a student who has demonstrated interest and aptitude in topics covering Philippine interests.
Donor: Endowed by the Filipino Canadian Saranay Association, Edmonton, Alberta.
Apply: Candidates for this award will be nominated by the Department of History and Anthropology on the basis of performance in courses offered by those departments which concentrate in Philippine Studies. Final selection will be made by the Undergraduate Scholarship Committee.

The Gerald Ferro Memorial Scholarship in Anthropology

Field: Forensic Anthropology
Value: $200
Number: 1
Conditions: To be awarded annually to either an Anthropology Graduate Student or a fourth year honors student intending to commence or continue graduate studies in the field of Forensic Anthropology. Selection will be made on the basis of a combination of superior academic achievement, research potential, and innovation of proposed research as determined by a departmental selection committee.
Donor: Endowed by Dr Roy Marokus, MD in memory of the late Gerald Ferro, a former solicitor and attorney at law in Tucson, Arizona.
Apply: By nomination from the Department of Anthropology.

Art and Design

The John Baldwin Memorial Prize in Visual Communication

Field: Visual Communication Design
Value: $100
Number: 1
Conditions: To be awarded annually to a student enrolled in the Bachelor of Fine Arts degree program in Art and Design for the most consistently imaginative approach to Visual Communication Design. Selection will be made on the basis of the work of the preceding session by an assessment panel comprised of members of the Department Scholarship Committee.
Donor: Endowed by Dr and Mrs RG Baldwin in memory of their son John, a student of visual communication while he attended the University of Alberta.
Apply: By nomination from Faculty/Department.

The Florence Andison Friedman Scholarships

Field: Painting and Drawing
Value: $1200
Number: 1
Conditions: To be awarded annually to deserving undergraduate or graduate students who demonstrate promise in the area of painting and/or drawing. Selection of recipients and the allotment of funds shall be at the discretion of the Awards Committee of the Department of Art and Design.
Donor: Endowed by friends and family of the late Florence Andison Friedman.
Apply: By nomination from Faculty/Department.

The Heinz-Jordan Memorial Scholarship

Value: $500
Number: 2
Conditions: Offered annually to a BFA or MFA student for excellence in any of the fields of specialization offered by the Department of Art and Design.
Donor: Heinz-Jordan Company.
Apply: By nomination from Faculty/Department.

The Brian Murchison Drawing Prize

Value: $100
Number: 1
Conditions: Awarded annually to a student in the BFA program for outstanding achievement in the field of drawing.
Donor: Friends of the late Brian Murchison, a former student.
Apply: By nomination from Faculty/Department.

The University of Alberta Alumni Prize in Fine Arts

Value: $200
Conditions: Offered annually to the student in the BA in Art or BFA program who has demonstrated the best progress. Financial need may be considered in making the award.
Donor: General Alumni Association, The University of Alberta.
Apply: By nomination from Faculty/Department

Canadian Studies

The Lou Hyndman Edmonton Glenora Scholarships

Field: Law, History, Political Science, Education, Business, Economics, Canadian Studies, or Women's Studies.
Value: $4,000 for each of the last two years of the degree program.
Number: 2 new awards per year.
Conditions: These scholarships are awarded on the basis of academic achievement and demonstrated community service. The first year of the award may be taken away from the University of Alberta to another university in Canada or elsewhere. Renewal of the award for the second year is contingent upon satisfactory academic standing on a full, normal course load during the first year of the award. For the 1991 competition only, students registered in the fourth year of Canadian Studies or Women's Studies with minors in Political Science or History will be eligible to apply.

Donor: Endowed by the Trustees of the Lou Hyndman Campaign Trust Fund on behalf of the Edmonton Glenora Progressive Conservative Association.
Apply: Director of Student Awards by October 15 on the University of Alberta Leadership Awards application form.

Classics

The Monica Jones Aamodt Prize in Classics

Field: Classics
Value: $75
Number: 2
Conditions: To be awarded annually on the basis of the highest academic standing; one prize in Classics 367 and one in 368, provided that the standing obtained meets with the approval of the Faculty Council.
Donor: Endowed by the Delta Delta Delta Alumnae, in honor of Mrs Monica Jones Aamodt, the organizer of the fraternity on this campus.
Apply: By nomination from Faculty/Department.

The Emily Sereth Lieberman Memorial Scholarship in Classics

Field: Classics
Value: $250
Number: 2
Conditions: To be awarded annually on the basis of highest academic standing; one award in Classics 349 and one in Classics 350, provided the student's record is otherwise satisfactory.
Donor: Endowed by the family and friends of the late Mrs Lieberman.
Apply: By nomination from Faculty/Department.

The Dr Geneva Misener Memorial Scholarship in Classics

Field: Classics
Value: $600
Number: 1
Conditions: To be awarded to a student of outstanding academic merit completing the third year of an honors program in Classics.
Donor: Bequest of the late Dr Misener.
Apply: By nomination from Faculty/Department.

Comparative Literature

The Helene and David Leo Kreisel Prize in Comparative Literature 301/302

Field: Comparative Literature
Value: $200
Number: 1
Conditions: To be awarded annually to the student who has written the best essay in either Comparative Literature 301 or Comparative Literature 302.
Donor: Dr and Mrs H Kreisel of Edmonton.
Apply: By nomination from Faculty/Department.

The Rosa Stephansson-Benediktson Prize in Comparative Literature

Field: Comparative Literature
Value: Approx. $300 (Variable, depending on accumulated interest on endowment.)
Number: 1
Conditions: To be awarded annually to a third year student in either the Honors program or the Specialization program in Comparative Literature. The recipient shall have demonstrated superior academic achievement, a commitment to community life and be a Canadian Citizen or Permanent Resident.
Donor: Endowed by the family of Rosa Stephansson-Benediktson in honour of the Icelandic-Canadian poet, Stephen G. Stephansson to assist deserving students in the field of literature at the University of Alberta.
Apply: By nomination from the Department of Comparative Literature.

Drama

The Frank Bueckert Prize

Field: Drama - Playwriting
Value: $200
Number: 1
Conditions: Awarded annually to an undergraduate student of superior academic achievement who demonstrates aptitude and promise in the playwriting courses taken in the Department of Drama.
Donor: Endowed by the Department of Drama from donations to The Frank Bueckert Fund and proceeds of the Studio Theatre Frank Bueckert Scholarship Performance in honor of his retirement from the Department.
Apply: By nomination of the Coordinator, Playwriting Division, Department of Drama.

The Citadel Theatre Award

Value: Two season subscriptions to the Citadel Theatre.
Conditions: Awarded annually to an outstanding student in Drama. If there is no suitable candidate no award will be made.
Donor: The Citadel Theatre of Edmonton.
Apply: By nomination from Faculty/Department.

The Friends of the Theatre Bursary

Value: Variable
Number: Variable
Conditions: Available to students entering second or third year of the Bachelor of Fine Arts in Drama program on the basis of academic standing and financial need.
Apply: By nomination from Faculty/Department.

The Charles Gale Memorial Scholarship

Field: Fine Arts
Value: Variable (depending on interest accrued from principal)
Number: Variable
Conditions: To be awarded annually in odd years to a graduating student in the Department of Music and in even years to a graduate student in the Department of Drama based on superior academic achievement.
Department of Music recipients should be studying in the area of chamber music. Preference will be given to a student in piano accompaniment. Preference for Department of Drama recipients will be given to students in Classical Theatre.
Donor: Endowed by friends and colleagues of the late Charles Gale.
Apply: By nomination from the Chair, Department of Music or Drama.

The Sandra Faye Guberman Memorial Scholarship

Field: Acting
Value: $250
Number: 1
Conditions: To be awarded annually to an outstanding student entering the final year of the BFA Acting Program. Selection will be made by the BFA Acting Committee on the basis of high academic achievement in the core courses.
Where tenable: University of Alberta.
Donor: Friends of the late Sandra Guberman.
Apply: By nomination from Faculty/Department.

The Elizabeth Sterling Haynes Scholarship

Value: $600
Number: 1
Conditions: To be awarded annually to a student entering second, third or fourth year of the Bachelor of Fine Arts in Acting or Design on the basis of academic attainment, artistic or professional achievement, and contribution and achievement above and beyond class and assigned work.
Donor: Endowed by Friends of Elizabeth Sterling Haynes.
Apply: Chair, Department of Drama by May 1.

The Aaron Lazerson Memorial Prize in Drama

Value: $200
Number: 1
Conditions: To be awarded annually to a student entering the fourth year of a BA program, majoring in Drama, on the basis of excellence and commitment to the field of drama. A minimum grade point average of 7.0 is required.
Donor: Dr & Mrs H Kreisel of Edmonton.
Apply: Chair, Department of Drama by May 1.

The Shoctor Prize in Drama

Value: $250
Conditions: To be awarded annually to a student entering the fourth year of the Bachelor of Fine Arts in Drama program, on the basis of academic standing.
Donor: Endowed by Dr Joseph H Shoctor, QC, of Edmonton.
Apply: By nomination from Faculty/Department.

East Asian Studies

The Chinese Graduates Association of Alberta Undergraduate Scholarship

Field: Chinese Studies
Value: Variable
Number: 1
Conditions: To be awarded annually on the basis of superior academic achievement in the second level of Chinese Studies.
Donor: Endowed by the Chinese Graduates Association of Alberta.
Apply: By nomination from the Department of East Asian Languages and Literature.

The Guy Stuart Phillips Memorial Bursary

Field: East Asian Studies
Value: $400
Number: 1
Conditions: Awarded to a Canadian Citizen entering second year East Asian Studies on the basis of financial need.
Donor: Endowed by friends and family of the late Guy Stuart Phillips.
Apply: By nomination from the Department.

Economics

The Duncan Alexander MacGibbon Medal in Economics

Conditions: Awarded annually to the student graduating with highest distinction from Honors Economics.
Donor: Endowed by the late Dr DA MacGibbon of Hamilton, Ontario.
Apply: By nomination from Faculty/Department.

The Alberta Energy Company Ltd. Scholarships

Field: Petroleum Engineering, Economics, Geology.
Value: $2,000 each
Number: 3 (one in each program)
Conditions: To be awarded annually on the basis of outstanding scholarship to Canadian students or Permanent Residents who have completed the third year of studies in the four-year Honors or Specialization degree programs of Petroleum Engineering, Economics and Geology.
Donor: The Alberta Energy Company Ltd.
Apply: By nomination from Faculty/Department.

The Dr Milton F Bauer Memorial Scholarship

Field: Economics
Value: $700
Number: 1
Conditions: To be awarded annually, on the basis of academic merit, to a student proceeding to the fourth year of the honors program in Economics at the University of Alberta.
Donor: Endowed by friends and colleagues in memory of the late Dr Milton F. Bauer of Edmonton, Alberta.
Apply: By nomination of the Department of Economics

The Lou Hyndman Edmonton Glenora Scholarships

Field: Law, History, Political Science, Education, Business, Economics, Canadian Studies, or Women's Studies.
Value: $4,000 for each of the last two years of the degree program.
Number: 2 new awards per year.
Conditions: These scholarships are awarded on the basis of academic achievement and demonstrated community service. The first year of the award may be taken away from the University of Alberta to another university in Canada or elsewhere. Renewal of the award for the second year is contingent upon satisfactory academic standing on a full, normal course load during the first year of the award. For the 1991 competition only, students registered in the fourth year of Canadian Studies or Women's Studies with minors in Political Science or History will be eligible to apply.
Donor: Endowed by the Trustees of the Lou Hyndman Campaign Trust Fund on behalf of the Edmonton Glenora Progressive Conservative Association.
Apply: Director of Student Awards by October 15 on the University of Alberta Leadership Awards application form.

The Archibald Forster McGoun Memorial Book Prize in Economics

Value: $200
Number: 1
Conditions: To be awarded annually to the student obtaining the highest academic standing in Economics 401 and/or 402, or Economics 501, History of Economic Thought.
Donor: Mrs MH Long of Edmonton.
Apply: By nomination from Faculty/Department.

English

The Rutherford Memorial Medal in English

Conditions: Offered to a student of outstanding merit graduating from the Honors English program, with at least first class standing.
Donor: Mrs Cecil Rutherford, Edmonton, in memory of the late Honorable Alexander Cameron Rutherford.
Apply: By nomination from Faculty/Department.

The Aiken Prize in English Language and Literature

Value: $400
Number: 1
Conditions: Awarded to an outstanding student entering third year Honors English, providing a grade of 6 or better has been achieved in all English courses.
Donor: Endowed by the late Sir James Aiken.
Apply: By nomination from Faculty/Department.

The Frank Bessai Memorial Scholarship in Old English

Field: Old English
Value: $600
Number: 1
Conditions: To be awarded annually to an outstanding undergraduate student in the area of Old English, provided that the student's academic record is otherwise satisfactory in the year of the award. If there is no suitable candidate, no award will be made. The award is

open to undergraduate students registered in any one or more of the following courses: English 320 or 420. This award is open to any student registered in one of these courses.
Donor: Endowed by friends of the late Frank Bessai, in recognition of his services in the Department of English, 1960-1969.
Apply: By nomination from Faculty/Department.

The Sarah Nettie Christie Undergraduate Travel Bursaries

Field: English
Value: $500
Number: Varies from year to year
Conditions: Awarded to undergraduate students of English at the University of Alberta who are giving papers at scholarly conferences or who need to consult archives elsewhere.
Donor: Endowed by Norma Bell Christie, BA, 1935, in memory of her mother, Sarah Nettie Christie.
Apply: Nominated by the Department of English; eligible students should direct inquiries to the Chair, Graduate Committee, Department of English.

The James Patrick Folinsbee Prize in English

Value: Up to $1,000
Number: 1 or 2 (not exceeding $1,000 in total)
Conditions: To be awarded annually to an outstanding undergraduate student (or students) in the area of Creative Writing whose writing shows greatest merit, provided that the student's academic record is otherwise satisfactory in the year of the award. If there are no suitable candidates, no awards will be made. (Undergraduate students in any one or more of the following courses will be eligible: English 296, 394, 395, 494, 495.) This award is open to any student registered in these courses.
Apply: By nomination from Faculty/Department.

The James Patrick Folinsbee Memorial Scholarship in Creative Writing

Field: English
Value: Up to $3,000
Number: 1 or 2 (not exceeding $3,000 in total)
Conditions: To be awarded to a student (or students) of demonstrated ability in creative writing who will be entering fourth year of the Honors English program or any year of a graduate program in English. Also open to students from elsewhere who are entering a graduate program in English at the University of Alberta. This award is open to both full-time and part-time students.
Donor: Endowed by the late Dr FJ Folinsbee.
Apply: To Chair of the Department by April 30.

The Denis Godfrey Memorial Book Prize

Field: English Literature of the Romantic Period
Value: $100 for books
Number: 1
Conditions: Awarded annually to an outstanding undergraduate student working toward a bachelor's degree, provided that the student's academic record is otherwise satisfactory in the year of the award. If there is no suitable candidate, no award will be made. (Undergraduate students taking for credit at least one of the following courses will be eligible: English 350, 351, and appropriate 400-level English courses.)
Donor: Endowed by members of the Department of English, the Faculty of Arts and the Alma Mater Fund of the University of Alberta Alumni Association in memory of the late Professor Emeritus Denis Godfrey.
Apply: By nomination from Faculty/Department.

The RK Gordon Prize in Chaucer

Field: English
Value: $200
Number: 1
Conditions: To be awarded annually to an outstanding undergraduate student in English 324 (Chaucer), provided that the student's academic record is otherwise satisfactory in the year of the award. If there is no suitable candidate, no award will be made. This award is open to any student registered in this course.
Donor: The Friends of the University, in memory of the late Professor Emeritus Gordon.
Apply: By nomination from Faculty/Department.

The Priscilla Hammond Memorial Prize in English 101

Value: $200
Number: 2
Conditions: To be awarded annually to outstanding undergraduate students in English 101, provided that their academic record is otherwise satisfactory in the year of the award. If there are no suitable candidates, no awards will be made.
Donor: Endowed by Mrs Edith Hammond, in memory of her daughter.
Apply: By nomination from Faculty/Department.

The Priscilla Hammond Memorial Scholarship in Honors English

Value: $750
Number: 2
Conditions: Awarded to the students entering final year Honors English who in the judgment of the department show the greatest ability and promise in the field of English scholarship or in creative work in English.
Donor: Endowed by Mrs Edith Hammond, in memory of her daughter.
Apply: By nomination from Faculty/Department.

The Hurtig Publishers Book Prize in Canadian Literature

Value: $100 for books
Conditions: To be awarded annually to an outstanding undergraduate student in the area of Canadian Literature, provided that the student's academic record is otherwise satisfactory in the year of the award. If there is no suitable candidate, no award will be made. (Undergraduate students in any one or more of the following courses will be eligible: English 271, 371, 372, 373, 374 375, 376, 377, and appropriate 400-level courses).
Donor: Hurtig Publishers, Edmonton. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The JT Jones Prize in Milton

Field: English
Value: $250
Number: 1
Conditions: To be awarded annually to an outstanding undergraduate student in English 340 (Milton), provided that the students' academic record is otherwise satisfactory in the year of the award. If there is no suitable candidate, no award will be made. This award is open to any student registered in this course.
Donor: Endowed by friends of John Thomas Jones, in recognition of his service in the Department of English 1922-1964.
Apply: By nomination from Faculty/Department.

The Roscoe Robinson Miller Scholarship

Field: Geography or English
Value: $750
Number: 1
Conditions: To be awarded annually on the basis of academic standing to a student entering third or fourth year Honors Geography or Honors English.
Donor: Bequeathed by the late Roscoe R Miller.
Apply: Director of Student Awards by June 3.

The FM Salter Prize in Shakespeare Studies

Field: Open
Value: $600
Number: 1
Conditions: To be awarded annually on the basis of superior academic achievement to an undergraduate student in either English 338 - Shakespeare, or in two 3-credit undergraduate courses in Shakespearean studies.
Donor: Endowed by members of the English Department, Friends of the University, and University of Alberta Alumni.
Apply: By nomination from the Department of English.

The Shoctor Prize in Modern Drama

Value: $200
Conditions: To be awarded annually to an outstanding undergraduate student in English 367 (Modern British and American Drama) or English 368 (Modern Drama), or English 468, provided that the student's academic record is otherwise satisfactory in the year of the award. If there is no suitable candidate, no award will be made.
Donor: Endowed by Dr Joseph H Shoctor, QC, of Edmonton.
Apply: By nomination from department.

The James K Smith Memorial Bursary for Creative Writing

Field: Creative Writing
Value: Depending on financial need of student, up to $500
Number: 1
Conditions: To be awarded to a student pursuing studies in Creative Writing on the basis of financial need and creative writing skills and potential with the primary consideration being need.
Donor: ACCESS NETWORK employees and friends and colleagues of the late Jamie Smith.
Apply: Nomination by the Department of English.

The Sheila Watson BA (Special) Prize in Canadian and/or Commonwealth Literature

Value: $200
Number: 1
Conditions: Awarded annually to an outstanding undergraduate student entering the final year of a BA (Special) degree in English and/or Canadian Studies, provided that the student's academic record is otherwise satisfactory in the year of the award. If there is no suitable candidate, no award will be made. (Undergraduate students taking for credit one-and-a-half full-year courses, or equivalent, from among the following will be eligible: English 371, 372, 373, 374, 375, 376, 377, 380, and appropriate 400-level English courses.)
Donor: The editors of and contributors to Figures in a Ground: Canadian Essays on Modern Literature Collected in Honor of Sheila Watson (Saskatoon: Western Producer Prairie Books, 1978).
Apply: By nomination from Faculty/Department.

The Sheila Watson Prize in Modern British Literature

Field: English Literature
Value: $300
Number: 1
Conditions: To be awarded annually to the student who achieves the highest academic standing in English 369, provided that the student's academic record is otherwise satisfactory. If there is no suitable candidate no award will be made. This award is open to any student registered in this course.
Donor: Endowed by PD Clements and RJ Merrett with proceeds from "Literature, Language and Culture" (Edmonton, 1977) and the University of Alberta Conference of Literacy in recognition of the service of Sheila Watson to the Department of English.
Apply: By nomination from Faculty/Department.

Geography

See under Faculty of Science awards.

Germanic Languages

The Ambassador of Austria's Book Prizes in German

Field: Germanic Languages
Number: 2
Value: Book Prizes
Conditions: Offered annually to students for superior academic achievement in senior German language and Germanic linguistics/philology courses. A prize may not be given to the same student more than once.
Donor: The Ambassador of Austria; The donor will provide the award directly to the student.
Apply: By nomination from the Department of Germanic Languages.

The American Historical Society of Germans from Russia (Edmonton District Chapter) Scholarship

Field: German
Value: $500
Number: 1
Conditions: To be awarded annually on the basis of superior academic achievement and financial need to a student who will further his or her German studies by the scholarship.
Donor: Endowed by the American Historical Society of Germans from Russia (Edmonton District Chapter).
Apply: By nomination from the Department of Germanic Languages.

The German Academic Exchange Scholarship

Field: Open
Value: Tuition fees and living allowance for ten months beginning October 1
Number: 1
Conditions: Applicants must be Canadian Citizens, have a first degree by the date of tenure, be not more than 32 years of age, and be sufficiently fluent in the German language.
Where tenable: At a German university or academy of art or music.
Donor: The Federal Republic of Germany.
Apply: By letter to the Director of Student Awards by November 1. Letter should include academic background, study plans in Germany, and projected plans after return.

The German Government Book Prizes

Number: 2
Conditions: Offered annually to students for outstanding merit in German Literature courses provided that these students obtain a grade of not less than 7 in these courses, are carrying a full year's work and have a record satisfactory to the Faculty Council. A prize may not be given to the same student more than once.
Donor: The Federal Republic of Germany. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The German Canadian Business and Professional Association of Alberta Prize for Honors and Graduate Courses

Field of Study: Germanic Languages
Number: 1
Value: $500
Conditions: To be awarded annually to a graduate or undergraduate student for superior academic achievement in honors or graduate courses offered by the Department of Germanic Languages.
Donor: Endowed by the German Canadian Business and

Professional Association of Alberta.
Apply: By nomination from the Department of Germanic Languages.

The German Canadian Business & Professional Association of Alberta Prize in Senior Courses

Field: Germanic Languages
Value: $300
Number: 1
Conditions: To be awarded annually to an undergraduate student for superior academic achievement in senior courses offered by the Department of Germanic Languages.
Donor: Endowed by the German Canadian Business and Professional Association of Alberta.
Apply: By nomination from the Department of Germanic Languages.

The Ambassador of Switzerland's Book Prize in German

Conditions: Offered annually to a student for outstanding merit in senior German Literature courses, provided such student's record is otherwise satisfactory.
Donor: Ambassador of Switzerland. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

Eva Dannhauer Summers Memorial Scholarship

Field: German
Value: $1500
Number: 1
Conditions: To be awarded annually on the basis of superior academic achievement and financial need, to a senior undergraduate or graduate student who will further his or her German studies by the scholarship.
Donor: Endowed by Mr Thomas E Summers.
Apply: By nomination from the Department of Germanic Languages.

The Torskeklubben-Founder's Prize

Field: Scandinavian Studies
Value: Variable (dependent on earned interest)
Number: 1
Conditions: To be awarded annually on the basis of superior academic achievement to a student demonstrating dedication to the study of Scandinavian languages and culture and skill in language acquisition.
Donor: Endowed by Torskeklubben of Edmonton
Apply: By nomination from the Department of Germanic Languages.

History

The Prairie History Medal

Field: Prairie History
Value: Sterling guilt medal
Number: 1
Conditions: Awarded to a graduating student majoring in History on the basis of achievement in two full courses in Canadian History, at least one of which must be in Western Canadian History. Overall academic performance must be satisfactory to the Department.
Donor: Endowed by Mr James H. Gray, Calgary.
Apply: By nomination from Faculty/Department.

The S.W. Field Scholarship in History

Field: History
Value: $500
Number: 1
Conditions: To be awarded annually for the best Honors essay by a graduating student in Honors History. A committee headed by the Honors Advisor will judge the essays.
Donor: Field and Field Barristers and Solicitors in honor of one of the founders of the firm, the late Mr S.W. Field, QC, LLD
Apply: By nomination from Faculty/Department.

The James Barrington Prize in Southeast Asian History

Field: History
Value: $750
Number: 1
Conditions: To be awarded annually to the student who attains the highest standing in Southeast Asian History.
Donor: Endowed by friends of James Barrington to commemorate his pioneering work in the establishment of the teaching of Southeast Asian History at the University of Alberta.
Apply: By nomination from Faculty/Department.

The Blackley Long Prize in British History

Value: $150
Number: 1
Conditions: Offered annually to a student of outstanding merit in British History provided that the student's record is otherwise satisfactory.
Donor: Friends of FD Blackley, Professor Emeritus of History and the late MH Long, former head of the Department of History.
Apply: By nomination from Faculty/Department.

The Eugene Brody Scholarship in History

Field: History
Value: $2,000
Number: 1
Conditions: To be awarded annually to the student entering the third year of the History in the Honors or BA Special programs with the highest grade point average in the first two years; provided that first class standing is attained.
Donor: Endowed by the late Eugene Brody.
Apply: By nomination from Faculty/Department.

The Sir Winston Spencer Churchill Scholarship in Honors History

Value: $300
Conditions: Offered to a student of outstanding merit completing third year in Honors History, conditional on the student's registration in fourth year Honors History and inclusion in the program of a course dealing with the history of the English speaking peoples.
Donor: The Sir Winston Churchill Society of Edmonton.
Apply: By nomination from Faculty/Department.

The Ross William Collins Memorial Book Prize

Value: $50 for books
Conditions: Awarded to a student of outstanding merit in Renaissance and Reformation History provided the student achieves first class standing in the courses and the student's other work is satisfactory.
Donor: Mrs MH Long. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Trenholme Dickson and Letita S Dickson Prize

Value: $150
Number: 1
Conditions: Offered to a student of outstanding merit in the field of Canadian History, provided first class standing is attained and other subjects are passed.
Donor: Endowed by the late Letita S Dickson.
Apply: By nomination from Faculty/Department.

The Edmonton Consular Ball Scholarship in International Studies

Field: Political Science, History or Law
Number: 1
Value: $1,000 plus up to $1,000 in travel expenses.
Conditions: Awarded to graduate students and 3rd and 4th year honors students in the Departments of Political Science and History, and students in the Faculty of Law. Applicants are to submit a proposal for a paper on any aspect of relations between nations for the preservation of world peace, although preference will be given to studies involving the work of the United Nations and its agencies. The travel portion of the scholarship may be accessed to carry out research at any United Nations headquarters.
Donor: Endowed by the Edmonton Consular Corps
Apply: To the Office of Student Awards by February 28.

The Filipino Canadian Saranay Association Scholarship

Field: Open
Value: $500
Number: 1
Conditions: To be awarded on the basis of superior academic achievement to a student who has demonstrated interest and aptitude in topics covering Philippine interests.
Donor: Endowed by the Filipino Canadian Saranay Association, Edmonton, Alberta.
Apply: Candidates for this award will be nominated by the Department of History and Anthropology on the basis of performance in courses offered by those departments which concentrate in Philippine studies.
Final selection will be made by the Undergraduate Scholarship Committee.

The Barbara Fraser Memorial Prize

Field: History
Value: $100
Number: 1.
Conditions: To be awarded annually to a student enrolled in the Honors History program who has written an outstanding paper in any 400-level History course, provided that the student's academic record is otherwise satisfactory.
Donor: Endowed by friends of the late Barbara Fraser.
Apply: By nomination from Faculty/Department.

The Lou Hyndman Edmonton Glenora Scholarships

Field: Law, History, Political Science, Education, Business, Economics, Canadian Studies, or Women's Studies.
Value: $4,000 for each of the last two years of the degree program.
Number: 2 new awards per year.
Conditions: These scholarships are awarded on the basis of academic achievement and demonstrated community service. The first year of the award may be taken away from the University of Alberta to another university in Canada or elsewhere. Renewal of the award for the second year is contingent upon satisfactory academic standing on a full, normal course load during the first year of the award. For the 1991 competition only, students registered in the fourth year of Canadian Studies or Women's Studies with minors in Political Science or History will be eligible to apply.
Donor: Endowed by the Trustees of the Lou Hyndman Campaign Trust Fund on behalf of the Edmonton Glenora Progressive Conservative Association.
Apply: Director of Student Awards by October 15 on the University of Alberta Leadership Awards application form.

The Morden Heaton Long Memorial Prize in Honors History

Value: $200
Conditions: Offered to the third year honors student with the best record, conditional upon the student's registration in the fourth year of Honors History.
Donor: Mrs Winnifred Long, in memory of her late husband, a former head of the Department of History.
Apply: By nomination from Faculty/Department.

The Harold W. Riley Memorial Scholarship

Value: $900
Conditions: Offered annually to a student of outstanding merit who has shown a special interest in the history of Western Canada, provided the student's record is otherwise satisfactory and provided the recipient is returning as an undergraduate student in the next academic year.
Donor: Endowed by the late Mrs Riley.
Apply: By nomination from Faculty/Department.

George Malcolm Smith Memorial Book Prize

Value: $50 for books.
Conditions: Awarded to a student of outstanding merit in Modern European History, provided that the student attained first-class standing in the course, carried a full year's work and passed all his or her other subjects.
Donor: Mrs MH Long. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The John Henry Stanley Memorial Prize

Value: $150
Number: 1
Conditions: Awarded annually to a student of outstanding merit in Canadian History provided this student is taking a full year's work and passes all other subjects.
Donor: Endowed by Dr George FG Stanley in memory of his father.
Apply: By nomination from Faculty/Department.

The Right Honorable Pierre Elliott Trudeau Prize in Canadian History

Field: History
Number: 1
Value: Tuition and Fees
Conditions: To be awarded annually to the third-year student writing the best undergraduate essay in Canadian History. Students must have a minimum GPA of 7.5.
Donor: Endowed by the Edmonton Trudeau Committee
Apply: Papers meeting the general criteria will be submitted by instructors to an ad hoc committee of the Department of History for final judging.

The Henry Gerrie Ward Essay Prize in Western Canadian History

Value: $300
Number: 1
Conditions: To be awarded annually to a student who has written the best essay in History 464 (The Canadian West) on a topic in Western Canadian History. A panel, composed of members of the Department of History, will judge the essays. If the panel feels that no essay submitted is worthy, no award will be made.
Donor: Mrs Jean Ward and family in memory of their late husband and father.
Apply: By nomination from Faculty/Department.

Mathematics

See under Faculty of Science awards.

Music

The Violet Archer Undergraduate Scholarship in Music Composition

Field: Music
Value: Variable

Number: Variable
Conditions: May be awarded to undergraduate students in the Bachelor o Music (Composition) or Bachelor of Music (Honors) (Composition) program with a minimum of 7.5 GPA in music courses showing outstanding quality of compositions in a submitted portfolio consisting of a number of works. If no suitable candidate is available in any one year, the award will not be given.
Donor: Endowed by Dr Violet Archer, Professor Emerita, member of the Department of Music staff, 1962 through 1978.
Apply: By April 1 to the Chair, Department of Music.

The Beryl Barns Memorial Undergraduate Awards

Field: Music
Level of Study: Undergraduate
Value: Variable to a maximum of $4,000
Number: Variable
Conditions: Students enrolled full-time in the BMus, BMus (Honors) in practical studies (keyboard instruments, orchestral instruments, voice) or in music composition. A grade point average of 7.0 in Music courses will be expected in each year that the award is held. Awarded for a single year but renewable to a maximum of four years pending success in the annual Beryl Barns Memorial Awards competition.
Donor: Endowed by the late Beryl Barns.
Apply: To the Department of Music by April 1. Candidates will be screened through audition, interview, and submission of portfolio (composers).

The Abigal Edith Condell Memorial Scholarship in Music

Value: $800
Number: 1
Conditions: To be awarded annually to a student of outstanding merit at the end of the third year of the Bachelor of Music program.
Donor: Endowed by the Edmonton Musical Club using funds provided by the late Abigal Edith Condell.
Apply: By nomination from Faculty/Department.

The Richard Eaton Scholarship in Music

Value: $1,500
Number: 1
Conditions: To be awarded to a student in the Bachelor of Music program, for very outstanding musical merit. If given to a graduating student, such a recipient must be continuing his or her musical education at an institution or under a teacher approved by the Department. If no suitable candidate is available in any one year, the award will not be given.
Donor: Endowed by friends of the late Professor RS Eaton.
Apply: By nomination from Faculty/Department.

The Edmonton Opera Guild Award

Field: Voice
Value: Tuition and fees
Number: 1
Conditions: Offered to an undergraduate student entering third or fourth year who is majoring in voice in the BMus program at the University of Alberta. The nominated student will demonstrate superior ability and will be interested in pursuing an operatic career. Academic standing will be taken into consideration. If no suitable candidate is found in any given year, the award will not be presented.
Donor: The Edmonton Opera Guild.
Apply: Nominated by the Department of Music Scholarship Committee.

The Charles Gale Memorial Scholarship

Field: Fine Arts
Value: Variable (depending on interest accrued from principal).
Number: Variable.
Conditions: To be awarded annually, in odd years to a graduating student in the Department of Music and in even years to a graduate student in the Department of Drama based on superior academic achievement.
Department of Music recipients should be studying in the area of chamber music. Preference will be given to a student in piano accompaniment. Preference for Department of Drama recipients will be given to students in Classical Theatre.
Donor: Endowed by friends and colleagues of the late Charles Gale.
Apply: By nomination from the Chair, Department of Music or Drama.

The Margarita Heron, Pine Lake String Prize

Value: $200
Number: 1
Conditions: To be awarded annually to a student enrolled in the undergraduate program in the Department of Music. Selection will be based on general musicianship and violin, viola, or cello competency.
Donor: Endowed by Mr SA Heron and family.
Apply: By nomination from Faculty/Department.

The Peace River Pioneer Memorial Scholarships in Music

Value: One at $1,200 and six at $700
Number: 7
Conditions: Awarded annually to students of outstanding merit completing the first, second or third year of the Bachelor of Music program.
Donor: Endowed by the late Mr Charles Plavin of North Star, Alberta.
Apply: By nomination from Faculty/Department.

The Eva Shaw Memorial Prize in Music

Value: $500
Number:
Conditions: Awarded annually to a student of outstanding merit in any year of the Bachelor of Music program.
Donor: The children of the late Mrs Roy Shaw.
Apply: By nomination from Faculty/Department.

The Richard Eaton Singers Scholarship in Voice

Value: $750
Conditions: To be awarded to a student completing first, second or third year of the Bachelor of Music program for outstanding merit in studies in voice. Selection will be made by the Department of Music.
Donor: The Richard Eaton Singers.
Apply: By nomination from Faculty/Department.

The Symphonic Women's Educational Trust Fund Award

Field: Music
Value: $500
Number: 4
Conditions: Awards to be made to students entering the Bachelor of Music program who display outstanding skill as performers on orchestral instruments as determined in the audition for admission. The candidate's academic average will also be taken into consideration in making these awards.
Donor: The Symphony Women's Educational Assistance Fund.
Apply: By nomination from the Department/Faculty.

The Yamaha Music Scholarship

Field: Piano
Value: $300
Number: 1
Conditions: Awarded annually to a student of outstanding pianistic ability and above-average academic standing, completing the first, second, or third year of the Bachelor of Music program in Applied Music.
Donor: Yamaha Pianos & Organs Ltd, Edmonton.
Apply: By nomination from Faculty/Department.

Philosophy

The MacEachran Medal in Philosophy

Conditions: Offered to the student graduating with Honors in Philosophy or Philosophy and Greek with the highest standing in the last two years of the program, provided first class standing is attained.
Donor: Endowed by the late Professor Emeritus JM MacEachran.
Apply: By nomination from Faculty/Department.

The Errol T Anderson Memorial Scholarship in Philosophy

Field: Philosophy
Value: $1,500
Number: 1
Conditions: To be awarded annually on the basis of outstanding academic merit to a student entering the fourth year of the BA (Honors) or BA (Specialization) program in Philosophy. In case of equal merit, consideration may also be given to the personal attributes and financial status of the students being considered for the award. Recipients must be Canadian Citizens or Permanent Residents of Canada.
Donor: The Family of the late Errol T Anderson.
Apply: By nomination from Faculty/Department.

The William Irvine Memorial Prize in Ethics

Value: $550
Conditions: Offered to a student of outstanding merit in Philosophy 339, and Philosophy 340, provided that the student's academic record is otherwise satisfactory.
Donor: Endowed by friends of the late Mr Irvine.
Apply: By nomination from Faculty/Department.

The MacEachran Humanities Scholarships in Philosophy

Field: Philosophy
Value: $700
Number: 2
Conditions: To be awarded to two students in the Department of Philosophy for outstanding academic merit at the end of the third year of the honors programs.
Donor: Endowed by the late Professor Emeritus JM MacEachran.
Apply: By nomination from Faculty/Department.

Political Science

The Duncan Alexander MacGibbon Medal in Political Science

Conditions: Awarded to the student graduating from Honors Political Science with highest distinction.
Donor: Endowed by the late Dr DA MacGibbon of Hamilton, Ontario.
Apply: By nomination from Faculty/Department.

The Roberta E McKown Prize in Political Science

Field: Political Science
Value: $300
Number: 1
Conditions: To be awarded annually to a graduate of the BA (AR 20) or the BA Special Degree (AR 12) in Political Science with the highest GPA in Political Science, provided that a minimum GPA of 7.5 is attained. The GPA in this case will be calculated on the basis of all political science courses taken as part of the BA or BA Special degree at the University of Alberta. In the event of a tie, the award shall be split between the two students.
Donor: Endowed by family and friends of the late Roberta E McKown, past Chair of the Department of Political Science.
Apply: By nomination from the Department of Political Science.

The Matthew J Ashton Leadership Prize

Field: Marketing, Business Economics or Political Science
Value: $500
Number: 1
Conditions: To be awarded annually to a student in any year of an undergraduate program on the basis of superior academic achievement and demonstrated interest in the fields of marketing, business economics or political science. Preference is to be given for elected participation in university clubs, associations, and/or student government.
Donor: Endowed by friends and family of the late Matthew J Ashton.
Apply: Director of Student Awards by October 15 on the University of Alberta Leadership Awards application form.

The Edmonton Consular Ball Scholarship in International Studies

Field: Political Science, History or Law
Number: 1
Value: $1,000 plus up to $1,000 in travel expenses.
Conditions: Awarded to graduate students and 3rd and 4th year honors students in the Departments of Political Science and History, and students in the Faculty of Law. Applicants are to submit a proposal for a paper on any aspect of relations between nations for the preservation of world peace, although preference will be given to studies involving the work of the United Nations and its agencies. The travel portion of the scholarship may be accessed to carry out research at any United Nations headquarters.
Donor: Endowed by the Edmonton Consular Corps.
Apply: To the Office of Student Awards by February 28.

The Lou Hyndman Edmonton Glenora Scholarships

Field: Law, History, Political Science, Education, Business Economics, Canadian Studies, or Women's Studies.
Value: $4,000 for each of the last two years of the degree program.
Number: 2 new awards per year.
Conditions: These scholarships are awarded on the basis of academic achievement and demonstrated community service. The first year of the award may be taken away from the University of Alberta to another university in Canada or elsewhere. Renewal of the award for the second year is contingent upon satisfactory academic standing on a full, normal course load during the first year of the award. For the 1991 competition only students registered in the fourth year of Canadian Studies or Women's Studies with minors in Political Science or History will be eligible to apply.
Donor: Endowed by the Trustees of the Lou Hyndman Campaign Trust Fund on behalf of the Edmonton Glenora Progressive Conservative Association.
Apply: Director of Student Awards by October 15 on the University of Alberta Leadership Awards application form.

Psychology

The MacEachran Medal in Psychology

Conditions: Awarded to the student graduating from Honors Psychology with the highest standing on the final two years of the program, provided first class standing is attained.

Donor: Endowed by the late Professor Emeritus JM MacEachran.
Apply: By nomination from Faculty/Department.

The Margaret Ruth Crawford Memorial Scholarship

Field: Psychology
Value: $400
Number: 1
Conditions: Awarded annually to a student graduating from a Psychology Program at the University of Alberta, entering a graduate program in a clinically related field. The award will be based on superior academic achievement (minimum First Class Standing) and contributions to academic and non-academic communities.
Donor: Endowed by the Estate of Margaret Ruth Crawford.
Apply: By nomination from the Department of Psychology.

The MacEachran Humanities Scholarships in Psychology

Field: Psychology
Value: $700 each
Number: 2
Conditions: To be awarded to two students in the Department of Psychology for outstanding academic merit at the end of the third year of the honors programs.
Donor: Endowed by the late Professor Emeritus JM MacEachran.
Apply: By nomination from Faculty/Department.

Religious Studies

The Esther Fraser Memorial Scholarship

Value: $1400
Number: 1
Conditions: Awarded annually for academic excellence to a student majoring in Religious Studies in a second, third or fourth year program at the University of Alberta.
Donor: The family of Esther Fraser as a memorial.
Apply: By nomination from Faculty/Department.

Romance Languages

The Manoel Faucher Book Prize in French

Field: Romance Languages
Number: 1
Conditions: To be awarded annually to the graduating student with the highest average over the last two years in French Literature courses.
Donor: Friends of Manoel Faucher, Professor Emeritus of Romance Languages.
Apply: By nomination from Faculty/Department.

The Roland Bonvalet Memorial Scholarship

Field: French
Value: $600
Number: 1
Conditions: To be awarded to a French major registered in the Department of Romance Languages, who will have completed at least one full course equivalent at the 300 level in French, who wants to improve his or her knowledge of the French language and who has an outstanding academic record as determined by the Department.
Donor: Professor N Bonvalet-Mallet, Department of Romance Languages
Apply: By nomination from Faculty/Department.

The French Government Book Prizes in French 581

Number: 2
Conditions: Awarded each year to two students in French 581 who write the best essays on a contemporary author.
Donor: The Consul of France in Alberta. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Belgian Government Book Prize

Field: Department of Romance Languages
Value: Book
Number: 1
Conditions: To be awarded to the third year student in the Department of Romance Languages in an Honors or Combined Honors French program with the highest overall standing for the year.
Donor: The Belgian Government. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The French Government Book Prizes

Field: Department of Romance Languages
Value: Book
Number: 2
Conditions: To be awarded to the two students completing fourth year in the Department of Romance Languages in the Honors or Combined Honors French programs with the highest overall standing for the year.
Donor: The Consul of France in Alberta. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The EJH Greene Scholarship in Romance Languages

Field: Romance Languages
Value: Up to $2,000
Number: 1 or 2
Conditions: To be awarded annually to a student entering third or fourth year in the general or honors program of the Department of Romance Languages on the basis of superior academic achievement. Financial need may be considered.
Donor: Endowed by family and friends of EJH Greene, former head of the Department of Romance Languages.
Apply: By nomination from the Chair of the Department.

The Ambassador of Spain's Book Prize in Spanish

Value: Book
Conditions: To be awarded annually to an outstanding student in Spanish Language or Literature, provided the student's record is otherwise satisfactory to the Faculty Council.
Donor: The Ambassador of Spain to Canada. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Ambassador of Switzerland's Book Prize in French

Field: Department of Romance Languages
Value: Book
Number: 1
Conditions: To be awarded to the student in the second year Department of Romance Languages in an Honors or Combined Honors French Program with the highest overall standing for the year.
Donor: Ambassador of Switzerland. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Ambassador of Switzerland's Book Prize in Italian

Field: Department of Romance Languages
Value: Book
Number: 1
Conditions: To be awarded annually to an outstanding student in Italian Language or Literature, provided the student's record is otherwise satisfactory to the Faculty Council.
Donor: Ambassador of Switzerland. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

Slavic and East European Studies

The Canadian Polish Congress, Alberta Branch, Prize for Polish Language

Field: Polish Language
Value: $200
Number: 1
Conditions: To be awarded annually to the student with the highest standing in Polish 100, provided that the student's record is otherwise satisfactory.
Donor: Canadian Polish Congress, Alberta Branch.
Apply: By nomination from Faculty/Department.

The Canadian Polish Congress, Alberta Branch, Prize in Polish Literature

Field: Polish Literature
Value: $200
Number: 1
Conditions: To be awarded annually to a student of outstanding merit in a 400-level Polish course including INT D 445 (Poland), provided that the student's record is otherwise satisfactory.
Donor: Canadian Polish Congress, Alberta Branch.
Apply: By nomination from Faculty/Department.

The Sofia Gampel Memorial Prize for Nineteenth-Century Russian Literature

Field: Russian Literature
Value: $200
Number: 1
Conditions: To be awarded annually to a student of outstanding merit in Russian 320 or 323.
Donor: T. Yedlin
Apply: By nomination from Faculty/Department.

Polish Culture Society of Edmonton Prize

Field: Polish Literature and Language
Value: $200
Number: 1
Conditions: To be awarded annually to the student with the highest standing in Polish 303-304, provided that the student's record is otherwise satisfactory.
Donor: Polish Culture Society of Edmonton
Apply: By nomination from Faculty/Department.

The George Romaniuk Memorial Prize

Field: Ukrainian language
Value: $500 or more (depending on final donation and matching funds received).
Number: 1 or 2
Conditions: Awarded annually to student(s) of outstanding academic merit in Ukrainian 402. Award(s) based on marks in this course.
Donor: Endowed by Mrs Helen Kowal in memory of her brother George Romaniuk.
Apply: By nomination from the Department of Slavic and Eastern European Studies.

The Royal Canadian Legion, Norwood Branch, Prizes in Ukrainian

Value: $1000 each
Number: 3
Conditions: Awarded annually to students of outstanding merit in Ukrainian 200 or 304. Awards to be based on marks in these courses only.
Apply: By nomination from Faculty/Department.

The Royal Canadian Legion, Norwood Branch, Prize in Ukrainian Folklore Studies

Field: Ukrainian Studies
Value: $1,000
Number: 1
Conditions: Awarded annually to students of outstanding merit in Ukrainian 422 and 423, or Ukrainian 425 and 426. Awards to be based on marks in these courses only.
Apply: By nomination from Faculty/Department.

The Ukrainian Canadian Committee Prize

Value: $200
Number: 1
Conditions: Offered to a student of outstanding merit in Ukrainian Literature, provided the student's record is satisfactory.
Apply: By nomination from Faculty/Department.

The Ukrainian Catholic Women's League Prize

Value: $200
Number: 1
Conditions: Awarded to the student with the highest standing in Ukrainian 100, provided that the student's record is otherwise satisfactory.
Apply: By nomination from Faculty/Department.

The Ukrainian National Association Prize

Value: $250
Number: 1
Conditions: Offered to a student of outstanding merit in Ukrainian Literature 412, 481 or 482, provided that the student's record is otherwise satisfactory.
Apply: By nomination from Faculty/Department.

The Ukrainian Professional and Business Club Prizes

Field: Ukrainian Language in Education
Value: $400
Number: 2
Conditions: Offered annually on the basis of academic achievement and prospects of good teaching ability to two students from the Faculty of Education who are registered in a Ukrainian language course, in the Department of Slavic Languages. One prize to a student entering third year and one prize to a student entering fourth year.
Donor: The Ukrainian Professional and Business Club.
Apply: By nomination from Faculty/Department.

The Ukrainian Women's Association of Canada (Alberta Branch) Prize

Value: $200
Number: 1
Conditions: Offered to a student of outstanding merit in Ukrainian 304, 316, 402, or 442, provided that the student's record is otherwise satisfactory.
Apply: By nomination from Faculty/Department.

The Ulean and Eudoxia Scholarship in Russian

Field: Russian Language
Value: $500
Number: 2
Conditions: To be awarded annually, on the basis of high academic achievement in Russian 303/304 or Russian 401/402, to a student registered in a program of study at the University of Alberta with Russian as a subject of concentration, provided the student's record is otherwise satisfactory.
Donor: Endowed by Helen Tkachenko of Edmonton in memory of her late parents.
Apply: By nomination from Faculty/Department.

The Ulean and Eudoxia Travel Bursary

Field: Russian Studies
Number: Several
Value: Totalling approximately $1,300 annually, divided equally among recipients.
Conditions: To be awarded as a travel bursary for undergraduate University of Alberta students pursuing degree programs at the University of Alberta to pursue Russian Studies in the USSR.

Donor: Endowed by Helen Tkachenko.
Apply: By nomination from the Department of Slavic and East European Studies for students who are enrolled in one or more courses involving the study of Russian or directly related subjects.

Leo J Krysa Family Foundation Undergraduate Scholarships

Field: Ukrainian Studies
Value: Maximum of $2,500
Number: 3
Donor: Leo J Krysa Family Foundation
Apply: Canadian Institute of Ukrainian Studies.

Sociology

The Samuel M Strong Medal or Prize in Sociology

Conditions: Awarded to the student graduating from Honors Sociology with the highest standing on the final two years. The medal will be awarded only if the student attains first class standing, otherwise a book prize of $25 will be provided.
Donor: Endowed by friends of the late Dr Strong.
Apply: By nomination from Faculty/Department.

The Soren Bovbjerg Memorial Scholarship

Value: $750
Number: 1
Conditions: To be awarded annually on the basis of academic standing and financial need to an undergraduate student enrolled in a four year degree program in the Department of Sociology.
Donor: Endowed anonymously.
Apply: By nomination from the Department of Sociology.

The Dr Carlo Caldarola Scholarship

Value: $300
Number: 1
Conditions: To be awarded annually on the basis of outstanding academic attainment to a student entering the fourth year of the BA (Honors) program in Sociology.
Donor: Endowed by friends of the late Dr Caldarola.
Apply: By nomination from Faculty/Department.

The Pierre Robin Scholarship

Field: Population (Demography)
Value: $500
Number: 1
Conditions: To be awarded annually on the basis of satisfactory academic achievement and financial need to a student/students in the fourth year of the Honors, or Specialization Program in Sociology, area of concentration - population (demography). If the number of eligible students is more than one, the scholarship money will be divided equally among them. If there are no eligible students, the amount of money will be added to the corpus of the Pierre Robin Scholarship Fund (PRSF).
Donor: Endowed by friends of Pierre Robin.
Apply: By nomination from Faculty/Department.

The Tammy Usiskin Memorial Prize

Field: Gerontology
Value: $50
Number: 1
Conditions: Offered annually to a student on the basis of outstanding undergraduate course work in the field of Gerontology.
Donor: Endowed by the Edmonton Section, Council of Jewish Women.
Apply: By nomination from Faculty/Department.

Women's Studies

The Lou Hyndman Edmonton Glenora Scholarship

Field: Law, History, Political Science, Education, Business, Economics, Canadian Studies, or Women's Studies.
Value: $4,000 for each of the last two years of the degree program.
Number: 2 new awards per year.
Conditions: These scholarships are awarded on the basis of academic achievement and demonstrated community service. The first year of the award may be taken away from the University of Alberta to another university in Canada or elsewhere. Renewal of the award for the second year is contingent upon satisfactory academic standing on a full, normal course load during the first year of the award. For the 1991 competition only, students registered in the fourth year of Canadian Studies or Women's Studies with minors in Political Science or History will be eligible to apply.
Donor: Endowed by the Trustees of the Lou Hyndman Campaign Trust Fund on behalf of the Edmonton Glenora Progressive Conservative Association.
Apply: Director of Student Awards by October 15 on the University of Alberta Leadership Awards application form.

223.3.2 Awards From Other Sources

The Alberta Women's Bureau "Persons Case" Scholarship Fund

Field: Social Sciences
Value: Variable
Number: VariableConditions: To be awarded annually on the basis of academic standing and the applicants personal financial situation to undergraduate students enrolled in Social Science programs who have placed an emphasis on human relationships, including the comparative history and overview of roles, images and ideologies as they apply to human behavior, sex role relationships, minority groups and organizational theory and behavior, in their programs.
Where tenable: Alberta universities.
Donor: The Province of Alberta provides up to $20,000 annually to the Fund.
Apply: Director of Student Awards by September 30.

The Foreign Government Awards Program

Field: Various disciplines
Value: Variable
Number: Variable
Conditions: Awards are intended to assist Canadian students to further their studies or conduct research abroad at the master's, doctoral, or post-doctoral level. All applicants must be Canadian Citizens. For most countries, applicants must have completed a first degree or, for post-doctoral fellowships, a PhD by the beginning of the tenure of the award. Candidates are required to have a sound working knowledge of the relevant language of instruction.
Where tenable: Any University in Argentina, Austria, Belgium, Columbia, Denmark, Finland, France, Germany, Hungary, Mexico, The Netherlands, Norway, Poland, Portugal, Spain, Switzerland, and Yugoslavia.
Donor: International Council for Canadian Studies and the offering countries.
Apply: Program Officer, Foreign Government Awards Program, International Council for Canadian Studies (ICCS), 2 Daly Avenue, Ottawa, Ontario, Canada, K1N 6E2. Telephone (613) 232-0417. Applications must be received by the ICCS by October 15.

The Houselighters of the Citadel Theatre Scholarships

Field: Drama
Value: Variable
Number: Variable
Conditions: To be awarded to students in drama who have demonstrated excellence and a commitment to the theatre.
Donor: The Houselighters of the Citadel Theatre.
Apply: The Houselighters Auxiliary of the Citadel Theatre, 10230 - 132 Street, Edmonton, Alberta, T5N 1Y7.

223.4 Faculty of Business

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.4.1 Undergraduate Awards

Note: Medals and awards to graduating students are listed first.
All other awards are listed alphabetically.

Dr Hu Harries Medal in Business

Field: Business
Value: Medal plus $1,000
Number: 1
Conditions: To be awarded annually to the graduating student in the Faculty of Business at the University of Alberta who has obtained the highest academic standing in the courses of the final two years of the BCom Program.
Donor: The Faculty of Business.
Apply: In writing to the Undergraduate Records Office, 2-20 Faculty of Business, by April 15.

The William Buchanan Memorial Scholarship in Accounting

Field: Accounting
Value: $750
Number: 1
Conditions: Option 1: Awarded annually to a student entering the final year of the degree program, on the basis of superior academic achievement. Preference will be given to those considering the professional designation of CA or CMA.
Option 2: Awarded annually to a student entering the final year of the degree program, on the basis of superior academic achievement in senior accounting courses.
Donor: Endowed by the Buchanan Family.
Apply: In writing to the Undergraduate Records Office, Faculty of Business, BUS 2-20, by April 15.

Robert Card Memorial Scholarship in Accounting

Field: Accounting
Value: $1,000
Number: 2
Conditions: To be awarded to a student of superior academic achievement who is entering the third year of a program leading to the degree of Bachelor of Commerce, specializing in accounting who intends to proceed to the CA program.
Donor: Peat Marwick Chartered Accountants, the Kinsmen family and friends of the late Robert Card.
Apply: In writing to the Undergraduate Records Office, Faculty of Business, BUS 2-20 by April 15.

The Financial Executives Institute Silver Medal in Finance

Conditions: Awarded to the graduating student who has completed Finance 301, 412, and 422 with the higher grade point average, provided that the student's academic record is otherwise satisfactory. If there is no suitable candidate, no award will be made.
Donor: The Financial Executives Institute, Edmonton Chapter. The donor will provide the award directly to the student.
Apply: In writing to the Undergraduate Records Office, BUS 2-20, Faculty of Business.

The Chartered Accountants' Graduating Scholarship in Accounting

Field: Accounting
Value: $1,000
Number: 1 awarded per year
Conditions: This award is given to a student who is graduating from the Bachelor of Commerce Program, specialization in Accounting including the completion of a minimum of 3 senior accounting courses is required. Superior academic achievement in the Business program is required.
Donor: Endowed by Alberta's Chartered Accountants through the Accounting Education Foundation of Alberta.
Apply: In writing to Undergraduate Records Office, Faculty of Business, BUS 2-20, by April 15.

C George Davey Scholarship in Finance

Field: Finance
Value: $1,250 each
Number: Two awarded per year
Conditions: To be awarded annually to a student of superior academic achievement who is entering the final year of a program leading to the Bachelor of Commerce degree, specializing in Finance. The financial need of the applicant will also be taken into consideration.
Donor: Alberta Treasury Branches, in recognition of George C Davey, retired Superintendent of Alberta Treasury Branches.
Apply: Apply in writing to the Undergraduate Records Office, Faculty of Business, BUS 2-20 by April 15.

The Verner Creige McElroy Scholarship in Accounting

Field: Faculty of Business
Value: $500
Number: 1
Conditions: To be awarded annually on the basis of superior academic achievement to a student convocating from the Faculty of Business with a Degree of Bachelor of Commerce with Specialization in Accounting.
Donor: Endowed by the family in memory of Verner Creige McElroy, an early pioneer of South Edmonton.
Apply: In writing to the Undergraduate Records Office, 20 Faculty of Business, by April 15.

The Graeme Young and Associates Graduating Scholarship in Marketing

Field: Marketing, with preference being given to students who have completed the Urban Land Management course
Value: $900 each
Number: 2 awarded per year
Conditions: These awards are given to students who are graduating from the Bachelor of Commerce program. The awards are made to students with a specialization in Marketing. Preference is given to (a) those completing a course in Urban Land Management, (b) superior academic achievement and (c) involvement in extracurricular activities preferably within the university.
Donor: Endowed by Graeme Young and Associates Real Estate
Apply: In writing to Undergraduate Records Office, Faculty of Business, Bus. 2-20 by April 15.

The James Alexander Memorial Scholarship

Field: BCom degree program after a first degree

alue: $900
umber: 1 awarded per year
onditions: This award is given to a student who has completed one full year of studies in a BCom program after a first degree. Superior academic achievement in the Business program is required.
onor: Endowed by the Family and friends of the late James Alexander, an alumnus of the University of Alberta.
oply: Students should apply in writing to the Undergraduate Records Office, Faculty of Business, Room 2-20 by April 15.

he Matthew J. Ashton Leadership Prize

eld: Marketing, Business Economics or Political Science
alue: $500
umber: 1
onditions: To be awarded annually to a student in any year of an undergraduate program on the basis of superior academic achievement and demonstrated interest in the fields of marketing, business economics or political science. Preference is to be given for elected participation in university clubs, associations, and/or student government.
onor: Endowed by friends and family of the late Matthew J. Ashton.
oply: Director of Student Awards by October 15 on the University of Alberta Leadership Awards application form.

he Atomic Transportation System Inc. ursary

alue: $200
onditions: Offered annually to a student completing first year on the basis of academic standing and financial need.
onor: Atomic Interprovincial Transportation System Ltd of Winnipeg.
oply: Director of Student Awards by June 3.

he George C Berge Scholarship

eld: Accounting
alue: $400
umber: 1
onditions: Offered annually to a student of outstanding merit entering the third year of a Bachelor of Commerce Program specializing in Accounting.
onor: Mrs Kathleen E Berge of Edmonton.
oply: In writing to the Undergraduate Records Office, 2-20 Faculty of Business, by April 15.

he Board of Governors Prizes in Business

alue: $200
onditions: To be awarded to the student with the highest academic average at the end of each of the first, second and third years of the Faculty. If two or more students are equal for the first place, each will receive a full award.
onor: The Escheated Estates Fund of The University of Alberta.
oply: In writing to the Undergraduate Records Office, 2-20 Faculty of Business, by April 15.

he BP Canada Bursary

alue: $1,000
umber: 1
onditions: To be awarded annually to a student enrolled in either of the following areas: Geology, Geography, Cartography, Meteorology, Geophysics, Soil Science, Engineering, Business, or Economics, on the basis of academic standing.
onor: BP Canada Inc.
oply: Director of Student Awards by June 3st.

he Keith V Brennan Memorial Scholarship in ccounting

eld: Accounting
alue: $500
umber: 1
onditions: To be awarded annually to a student of superior academic achievement, who is entering the final year of the program leading to the degree of Bachelor of Commerce, specializing in Accounting. This scholarship is to be awarded to a student intending to pursue a career in Chartered Accountancy.
onor: Gardiner Karbani Audy & Partners, Chartered Accountants.
oply: In writing to the Undergraduate Records Office, 2-20 Faculty of Business, by April 15.

anadian Petroleum Tax Society Award in orporate Taxation

eld: Accounting - Taxation
alue: $500
umber: 1
onditions: To be awarded annually to a student of superior academic achievement who has completed Accounting 468 - Corporate Taxation.
onor: Canadian Petroleum Tax Society.
oply: In writing to the Undergraduate Records Office, Faculty of Business, Room 2-20 by April 15.

The Christopher Douglas Brown Memorial Scholarship in Marketing

Value: $800
Number: 1
Conditions: To be awarded annually on the basis of high academic attainment to students entering their final year of the program leading to the Degree of Bachelor of Commerce with a specialization in Marketing.
Donor: Endowed by friends and family of the late Christopher Douglas Brown, an alumnus of the University of Alberta.
Apply: In writing to the Undergraduate Records Office, 2-20 Faculty of Business, by April 15.

The Certified General Accountants of Alberta Scholarship

Field: Accounting, Finance or Economics
Value: $500
Number: 1
Conditions: To be awarded annually to a student entering the second year of the degree program leading to a Bachelor of Commerce. Preference will be given to an Alberta resident. Superior academic achievement in the Business program is required.
Donor: Certified General Accountants of Alberta
Apply: Applicants may apply in writing to the Undergraduate Records Office, Faculty of Business, Room 2-20 by April 15.

The Deloitte and Touche Scholarship

Field: Accounting
Value: Variable
Number: 1
Conditions: Offered to a student entering fourth year of the degree program for Bachelor of Commerce specializing in Accounting.
Apply: In writing to the Undergraduate Records Office, 2-20 Faculty of Business, by April 15.

The Duncan & Craig Prize in Business Law

Value: $300
Number: 1
Conditions: Awarded annually to a student of outstanding merit in Legal Relations 301.
Donor: Duncan & Craig, Barristers and Solicitors, Edmonton.
Apply: In writing to the Undergraduate Records Office, 2-20 Faculty of Business, by April 15.

The Hewlett-Packard (Canada) Ltd Calculator Awards

Field: Computing Science
Value: HP 28S Calculator
Number: 10
Conditions: To be awarded annually to the top 10 students entering their second year of studies who have demonstrated excellence in the computing sciences area.
Donor: Hewlett-Packard (Canada) Ltd.
Apply: In writing to the Undergraduate Records Office, 2-20 Faculty of Business, by April 15.

The Lou Hyndman Edmonton Glenora Scholarships

Field: Law, History, Political Science, Education, Business, Economics, Canadian Studies, or Women's Studies.
Value: $4,000 for each of the last two years of the degree program.
Number: 2 new awards per year.
Conditions: These scholarships are awarded on the basis of academic achievement and demonstrated community service. The first year of the award may be taken away from the University of Alberta to another university in Canada or elsewhere. Renewal of the award for the second year is contingent upon satisfactory academic standing on a full, normal course load during the first year of the award. For the 1991 competition only, students registered in the fourth year of Canadian Studies or Women's Studies with minors in Political Science or History will be eligible to apply.
Donor: Endowed by the Trustees of the Lou Hyndman Campaign Trust Fund on behalf of the Edmonton Glenora Progressive Conservative Association.
Apply: Director of Student Awards by October 15 on the University of Alberta Leadership Awards application form.

The Joseph and Melitta Kandler Scholarships for International Student Exchange with Austria

Field: To be assigned from time to time for the benefit of individual faculties for periods of several years.
The initial period of 4 years (1989-1992) is assigned to the Faculty of Business for support of students intending to study for one year at the Wirtschaftsuniversitaet Vienna, Austria.
Value: $1,000
Number: 2
Conditions: To be established by the respective faculties.
Donor: Dr Joseph Kandler, a native of Vienna, and a graduate of the Hochschule fuer Welthandel, now named Wirtschaftsuniversitaet Vienna, is a former member of the Senate and the Board of Governors of the University of Alberta. Melitta Kandler began her studies at the University of Graz, Austria and graduated with an MA from the University of Alberta.
Apply: The International Student Centre, in consultation with the respective undergraduate Dean's office.

The Luscar Ltd Scholarships in Business

Field: Business
Value: $1,000 each
Number: 5 undergraduate awards to be awarded on the basis of academic standing as follows:
1 for entering 2nd year
2 for entering 3rd year
2 for entering 4th year
Conditions: Awarded to students of outstanding merit registered in the Faculty of Business.
Donor: Luscar Ltd.
Apply: In writing to the Undergraduate Records Office, 2-20 Faculty of Business, by April 15.

The 3M Bursary in Business Administration

Field: Business Administration
Value: $500
Number: 1
Conditions: To be awarded annually on the basis of academic standing and financial need to a student completing first, second or third year in the Faculty of Business.
Donor: 3M Canada Inc, London, Ontario.
Apply: Director of Student Awards by June 3.

The Marsh and McLennan Limited Centennial Scholarship

Value: $500
Conditions: Offered on the basis of academic standing and financial need to a student entering second year in the Faculty of Business.
Donor: Marsh and McLennan Limited, of Calgary, as a mark of Canada's Centennial year.
Apply: Director of Student Awards by June 3.

The Society of Management Accountants of Alberta Scholarship in Accounting

Field: Accounting
Value: $500
Number: 1
Conditions: Awarded annually to a Faculty of Business student majoring in accounting and entering the fourth year of the degree program. Recipients must demonstrate overall merit and be interested in a career as a Certified Management Accountant (CMA).
Donor: The Society of Management Accountants of Alberta.
Apply: In writing to the Undergraduate Records Office, Faculty of Business, BUS 2-20 by April 15.

The ES (Stan) Sunley Scholarship

Field: Industrial Relations
Value: $750
Conditions: To be awarded annually, on the basis of high academic achievement, to a student entering fourth year of the Bachelor of Commerce program specializing in Industrial Relations. The award is restricted to residents of Alberta. Preference may be given to students with financial need should students of equal merit apply, although this criterion will not normally be used in the selection process.
Donor: The Edmonton Chapter of the Electrical Contractors Association of Alberta in honor of Mr ES (Stan) Sunley, a longtime member and strong supporter of the Association.
Apply: In writing to the Undergraduate Records Office, 2-20 Faculty of Business, by April 15.

The Peat Marwick Thorne Scholarship

Field: Accounting
Value: $1,000
Number: 1
Conditions: Offered annually to a student of outstanding merit entering fourth year of the Bachelor of Commerce program specializing in Accounting.
Donor: Peat Marwick Thorne, Chartered Accountants, Edmonton.
Apply: In writing to the Undergraduate Records Office, 2-20 Faculty of Business, by April 15.

223.4.2 Awards from Other Sources

CMA Scholarship

Field: CMA program
Value: Maximum of $1,500
Number: Up to ten in Alberta
Conditions: Awarded annually to current year graduates who intend to become Certified Management Accountants (CMA). The award is based on academic merit and demonstrated leadership ability. Applicants must be Alberta residents and Canadian Citizens or permanent Canadian residents.

Donor: Society of Management Accountants of Alberta.
Apply: Application forms may be obtained from the Student Awards Office or the Society of Management Accountants. Complete an application form, submit reference forms and arrange for official transcripts to be sent to the Society office before July 15. Apply directly to the Society of Management Accountants, 300; 530 - Eighth Avenue SW, Calgary, Alberta, T2P 3S8.

223.5 Faculty of Dentistry

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.5.1 Undergraduate Awards

Note: Medals and awards to graduating students are listed first. All other awards are listed alphabetically. Awards in the Dental Hygiene Program are listed under §223.5.3.

The Alberta Dental Association Gold Medal

Value: 24 kt Gold Medal
Conditions: Awarded to a graduating student for outstanding merit in the work of the fourth year, provided that an average of at least 7.0 is attained.
Apply: By nomination from Faculty/Department.

The Arthur D Cumming Medal

Field: Dentistry for children.
Conditions: Awarded to a graduating student for outstanding merit in dentistry for children, provided that at least 7.0 average is attained on the final year.
Donor: Endowed by the late Mr Cumming of Calgary.
Apply: By nomination from Faculty/Department.

The Dr GH Gibb Memorial Scholarship

Field: Restorative Dentistry
Value: $1,000
Number: 1
Conditions: Awarded to the student who has demonstrated the highest ability in Operative Dentistry and Fixed Prosthodontics over the four years of the program.
Donor: The family and friends of the late Dr GH Gibb.
Apply: By nomination from Faculty/Department.

The James McCutcheon Honor Award

Value: Medal and a cash prize of $400
Conditions: Offered to a student completing the final year of the DDS program who, over the four years of the program, has shown to possess to an outstanding degree those qualities of scholarship, leadership, and character which may be expected to lead to a distinguished position in the dental profession. The recipient will be selected by a committee on which faculty, students, and alumni will be represented. The award may be made to more than one student, in any one year, and may be withheld in the event that no sufficiently deserving candidate is available.
Donor: Dental Alumni Association of the University of Alberta.
Apply: By nomination from Faculty/Department.

The Dr W. Scott Hamilton Scholarship

Field: Oral Surgery
Number: 1
Value: $500
Conditions: Awarded annually to a graduating student who demonstrates an outstanding degree of scholastic achievement in the graduating year of the program, as well as, the highest proficiency in Oral Surgery in the last two years of the program.
Donor: Endowed by the family and friends of the late Dr W. Scott Hamilton.
Apply: By nomination from Faculty/Department.

The Alberta Dental Association Preprofessional Scholarship

Value: $300
Conditions: Offered to a student entering first year Dentistry who has shown outstanding merit in the pre-professional work at a university in Alberta, provided that the student has attained an average of 7.0 or better over the two years.
Apply: By nomination from Faculty/Department.

The Alberta Dental Association Bursaries

Value: One of $350 and one of $300
Number: 2
Conditions: Offered to students at the end of first, second or third year, on the basis of academic standing and financial need.
Apply: Director of Student Awards by June 3.

The Aurum Ceramic Laboratories Scholarship

Value: $400
Number: 1
Conditions: Offered to a student entering fourth year who has shown outstanding merit in the field of fixed partial denture prosthodontics.
Donor: Ceramic Dental Laboratories Limited of Edmonton.
Apply: By nomination from Faculty/Department.

The Board of Governors Prizes in Dentistry

Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first, second and third years of the Faculty. If two or more students are equal for first place each will receive a full award.
Donor: The Escheated Estates Fund of The University of Alberta.
Apply: By nomination from Faculty/Department.

The Harry Ernest Bulyea Prize

Field: Operative and Restorative Dentistry
Value: $250
Conditions: Offered to the third-year student with the highest average mark in all courses in Operative and Restorative Dentistry.
Donor: The University of Alberta Dental Alumni Association in memory of the first Director of the School of Dentistry.
Apply: By nomination from Faculty/Department.

The Calgary and District Dental Society Prize

Value: $500
Conditions: Offered annually to a student entering third year who shows outstanding merit in the basic science courses of the first two years of Dentistry, provided that he or she achieves an average of 7.0 or better in these courses.
Apply: By nomination from Faculty/Department.

The Calgary and District Gnathological Society Prize

Value: $200
Number: 1
Conditions: To be awarded annually to a student completing the third year of Dentistry, on the basis of excellence in the field of fixed prosthetics.
Donor: The Calgary and District Gnathological Society.
Apply: By nomination from Faculty/Department.

The Canadian Fund for Dental Education Dean's Award

Field: Dentistry
Number: 2
Value: $1000 each
Conditions: This award is presented annually to the second-year student and the third-year student with the highest grade point average on all courses at the completion of the first term. This includes all mid-session and first-term final examinations.
Donor: Canadian Fund for Dental Education.
Apply: By nomination from Faculty/Department.

The Cecil MacMillan Compton Memorial Award

Field: Dentistry
Value: To be announced
Number: 1
Conditions: To be awarded to a student completing third year in the Faculty of Dentistry who has shown outstanding clinical achievement in Removable Prosthodontics. The recipient shall be a resident of Northern Alberta (greater Edmonton and North).
Donor: Endowed by Dr H Keith, family, friends, and associates.
Apply: Nomination from the Faculty of Dentistry.

The Arthur D Cumming Bursaries

Value: As below
Number: 4
Conditions: Awarded as follows: (1) two bursaries at $500 each to students entering first year Dentistry based on pre-professional work at a university in Alberta; (2) two bursaries of $1,000 offered, on the basis of academic standing and financial need, to students entering second or third or fourth years of the Faculty.
Donor: Endowed by the late Mr Cumming of Calgary.
Apply: For item (2) apply to Director of Student Awards by June 3.

The Dental Alumni Association Prizes

Value: $200
Number: 3
Conditions: Prizes are awarded annually to students completing first, second and third year in the Faculty of Dentistry who demonstrate all-round leadership in student activities, character development, as well as academic achievement.
Donor: The University of Alberta Dental Alumni Association.
Apply: The Dean of the Faculty of Dentistry by April.

The Edmonton and District Dental Society Prizes

Value: $100 each
Number: 3
Conditions: Prizes are awarded for (1) outstanding merit in the first year; (2) outstanding merit in the third year; (3) outstanding merit in Periodontics in the graduating year, provided that, in all cases, an average of at least 7.0 is achieved. General character and interest in student activities may be taken into consideration.
Apply: By nomination from Faculty/Department.

The MH Garvin Scholarship Fund in Dentistry

Value: Variable
Number: Variable
Conditions: Open to undergraduates in the Faculty of Dentistry or graduates of the most recent year, to encourage study or research. Awards will be based on academic standing, professional and personal qualifications and financial need.
Donor: The Western Canada Dental Society has established a fund at The University of Alberta.
Apply: Dean of the Faculty of Dentistry.

The Harry Alexander Gilchrist Prize

Field: Prosthetic Dentistry
Value: $250
Conditions: Offered to the third year student with the highest average mark in all courses in Prosthetic Dentistry.
Donor: The University of Alberta Dental Alumni Association in memory of the former Professor of Dentistry.
Apply: By nomination from Faculty/Department.

The International College of Dentists (Canadian Section) Prize

Value: $350
Conditions: Offered annually to a student completing the third year of Dentistry, on the basis of outstanding merit in that year, general character, and participation in extracurricular activities.
Apply: By nomination from Faculty/Department.

The Dr HR MacLean Memorial Scholarship

Field: Dentistry
Value: $1,000
Number: 1
Conditions: To be awarded to a student entering the final year of the dental program who has demonstrated superior academic achievement, leadership, sportsmanship and who is of a character which may be expected to make distinguished contribution to the dental profession and community. The award may be withheld in the event that no sufficiently deserving candidate is available.
Donor: Endowed by the family, friends and colleagues, in memory of Dr Hector R MacLean, former Dean and Professor Emeritus, Faculty of Dentistry for his life long contributions to the practice, education, research and organization of Dentistry on the national and international level.
Apply: By nomination from the Faculty of Dentistry.

The Dr RR McIntyre Memorial Scholarship

Field: Interceptive and Preventive Orthodontics
Value: $500
Conditions: Awarded to a student completing third year Dentistry for outstanding merit in Interceptive and Preventive Orthodontics, provided that an average of at least 7.0 has been attained on the whole year's work.
Donor: Calgary and District Dental Society.
Apply: By nomination from Faculty/Department.

The Dr Melville Kahn and Anne Kahn Prize in Restorative Dentistry

Field: Dentistry
Value: $150
Number: 1
Conditions: Awarded annually for superior academic achievement in Restorative Dentistry in the third year.
Donor: Endowed by the family of the late Dr M Kahn of Vancouver.
Apply: By nomination from Faculty.

The Shaw Laboratories Scholarship

Field: Dentistry
Value: $400
Number: 1
Conditions: Open to students entering second, third or fourth year Dentistry on the basis of academic standing and financial need.
Donor: The Shaw Laboratories Limited.
Apply: Director of Student Awards by June 3.

The Dr Cal Waddell–Western Canada Dental Society Memorial Scholarship

Field: Dentistry
Value: $1,000
Number: 1
Conditions: To be awarded annually to a student who has successfully completed his or her penultimate year of the DDS/DMS Program. The student must show, to a outstanding degree, those qualities of scholarship, leadership, character and humanity which may b

expected to lead to a distinguished position in the Dental Profession and the Community.
Donor: Western Canada Dental Society.
Apply: By nomination from Faculty/Department.

The Dr James Zimmerman Scholarships

Field: Dentistry
Value: $400, $600, $1,000
Number: 3
Conditions: The sum of $2000 is to be awarded annually as follows: $400 to a student who has completed 2nd year in the Faculty of Dentistry; $600 to a student who has completed 3rd year in the Faculty of Dentistry; and $1000 to a graduating student of the Faculty of Dentistry. The scholarships are to be awarded on the basis of superior academic achievement. Consideration may be given for participation in student activities in the Faculty or financial need.
Donor: Endowed by the Estate of the late Dr James Zimmerman.
Apply: By nomination from the Faculty of Dentistry.

The Dr James Zimmerman Scholarship

Value: $500
Number: 1
Conditions: To be awarded annually to a student completing the second or third year of the program. The award is based on academic attainment and financial need.
Donor: The Calgary and District Dental Society.
Apply: Director of Student Awards by June 3.

223.5.2 Dental Hygiene Program

Note: Medals and awards to graduating students are listed first. All other awards are listed alphabetically.

The Dental Hygiene Medal and Prize

Value: Medal plus $50
Conditions: Awarded to the student graduating with the highest standing from the Dental Hygiene Program.
Donor: Alberta Dental Association.
Apply: By nomination from Faculty/Department.

The Alberta Dental Hygienists' Association Silver Award

Value: An engraved silver tray
Conditions: Awarded to the student graduating with the second highest standing from the Dental Hygiene Program.
Donor: The Alberta Dental Hygienists' Association. The donor will provide the award directly to the student.
Apply: By nomination from the Dental Hygiene Division of the Department of Dental Health Care.

The Alberta Dental Association Prize in Dental Hygiene

Value: $200
Conditions: Offered annually to a student of outstanding merit entering second year in the Dental Hygiene Program.
Apply: By nomination from Faculty/Department.

The Board of Governors Prize in Dental Hygiene

Value: $200
Conditions: To be awarded to the student with the highest academic average at the end of the first year of the Program. If two or more students are equal for first place, each will receive a full award.
Donor: The Escheated Estates Fund of The University of Alberta.
Apply: By nomination from Faculty/Department.

The Margaret Berry MacLean Prize

Value: $100.
Conditions: To be awarded to a student of outstanding merit at the end of the first year in the Dental Hygiene Program.
Donor: Endowed by Mrs Margaret Berry MacLean, a former director.
Apply: By nomination from Faculty/Department.

223.5.3 Awards from Other Sources

Professional Training Grants

A limited number of professional training grants are available for students entering first and second year Dental Hygiene. Grants cover tuition fees, travel to the place of study if outside of Alberta, and a monthly living allowance. In return for the grants, the recipients must be willing to complete a return service commitment in an approved health or social service setting in Alberta for 12 months per academic year of assistance. Professional training grants are also available for students in Speech Pathology, Audiology, Occupational Therapy, Physiotherapy, Psychology, Health Administration, Psychiatry and RN specialties on post-basic training. The occupational groups identified may change based on identified manpower needs which are assessed annually. Application forms are available from the Staff Development Branch, Alberta Social Services and Community Health, 6th Floor, Seventh Street Plaza, 10030-107 Street, Edmonton, Alberta. T5J 3E4.

223.6 Faculty of Education

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.6.1 Undergraduate Awards

Note: Medals and awards to graduating students are listed first. All other awards are listed alphabetically.

The Milton Ezra LaZerte Gold Medal

Field: Education
Value: 18kt Gold Medal
Number: 1
Conditions: The medal is awarded to the student who has shown the highest general proficiency in the final two years of the Bachelor of Education program.
Donor: Alberta Teachers' Association in honor of the former Dean of the Faculty.
Apply: By nomination from Faculty/Department.

The Muriel Affleck Prize

Field: Early Childhood Education
Value: $100
Number: 1
Conditions: To be awarded annually to a graduating early childhood education student of superior academic achievement in the field of reading.
Donor: Endowed by family and friends of Dr Muriel Affleck in recognition of her contribution to early childhood education and reading.
Apply: By nomination from the Department of Elementary Education.

The Aileen Charlotte Driscoll Scholarship

Field: French Language
Value: $2,000
Number: 1
Conditions: Awarded annually to a deserving honors student graduating with a degree of Bachelor of Education to allow the recipient to continue his or her studies of French in France. A condition of the award is that each recipient will subsequently teach at least one year in the Province of Alberta.
Donor: Endowed by the late Aileen Charlotte Driscoll of Edmonton.
Apply: Letter to Director of Student Awards by December 1 of the year prior to when the award is to be held.

The Dr Marie Meyer Memorial Undergraduate Scholarship

Field: Elementary Education, Reading and Language Education
Value: $700
Number: 1
Conditions: To be awarded annually to a graduating student in Elementary Education who has shown distinction in reading and language education.
Donor: Endowed by the Zonta Club of Edmonton, in memory of a former member, Dr Marie Meyer.
Apply: The Associate Chair will select one graduating student each year in consultation, as required, with the Language Arts SAC.

The Guy and Vanna Tessier Secondary Education Award

Field: Secondary Education
Value: $400
Number: 1
Conditions: To be awarded annually to a graduating student in the secondary route of the Bachelor of Education program who shows outstanding potential to contribute to the improvement of secondary education teaching in Alberta. Selection will be based on a combination of academic standing, practicum reports and recommendations, adviser's recommendations, and commitment to teaching shown through professionally related activities.
Donor: Mr Guy and Mrs Vanna Tessier of Edmonton.
Apply: By nomination from Faculty/Department.

The Pearl Turner Memorial Prize

Field: Early Childhood Education
Value: $200
Number: 1
Conditions: Awarded annually to a graduating student who has specialized in early childhood education. In selecting a recipient, the Committee will look at personal and professional qualities combined with academic achievement.
Donor: The Edmonton Branch of the Canadian Committee on Early Childhood (OMEP).
Apply: By nomination from Faculty/Department.

The Alberta Business Education Association Scholarship

Field: Business Education
Value: $250
Number: 1
Conditions: Awarded annually to a student majoring in Business Education who has completed 90 units of course weight. The award is based on superior academic achievement and preference will be given to those who are members of the Alberta Business Education Association.
Donor: Endowed by the Alberta Business Education Association.
Apply: By nomination from the Department of Secondary Education.

The Alpha Chapter Delta Kappa Gamma Society International Memorial Award

Field: Education
Value: $400
Number: 1
Conditions: To be awarded to a student of outstanding academic merit completing third year of the Bachelor of Education program and proceeding into fourth year in the immediate next session.
Donor: The Delta Kappa Gamma Society, Edmonton.
Apply: By nomination from Faculty/Department.

The Michele Nobuko Aoki Secondary Education Memorial Award

Field: Secondary Education (Biology Education)
Value: $400
Number: 1
Conditions: To be awarded annually to a senior undergraduate student in the Secondary Route of the Bachelor of Education or Teacher Certification programs who, judged by biology education professors in the Department of Secondary Education, shows outstanding potential to contribute to the improvement of biology teaching in secondary schools. Selection will be based on a combination of good scholarship and promise of excellence in teaching, shown in professionally related activities such as the integrated curriculum and instruction courses in biology education.
Donor: Dr and Mrs T Aoki and sons, Douglas and Edward.
Apply: By nomination from Faculty/Department.

The V Nelson Ayres Memorial Scholarship in Industrial Arts

Field: Industrial Arts
Value: $500
Number: 1
Conditions: To be awarded annually to a full-time student entering the fourth year of the Industrial Arts program on the basis of high academic standing and contribution to student life through departmental and faculty activities.
Apply: Applications must be made on a form available from the office of the Chair, Department of Industrial and Vocational Education. Application Deadline: May 1 preceding entry to the professional term.
Donor: Endowed through a gift to the University by Mrs Gwendolin Ayres, widow of the late Mr V Nelson Ayres.

The V Nelson Ayres Memorial Scholarship in Vocational Education

Field: Vocational Education
Value: $500
Number: 1
Conditions: To be awarded annually to a full-time student entering the fourth year of the Vocational Education program on the basis of high academic standing and contribution to student life through departmental and faculty activities.
Apply: Applications must be made on a form available from the office of the Chair, Department of Industrial and Vocational Education. Application Deadline: December 1 preceding entry to the professional term.
Donor: Endowed through a gift to the University by Mrs Gwendolin Ayres, widow of the late Mr V Nelson Ayres.

The Board of Governors Prizes in Education

Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first, second and third years of the Faculty. If two or more students are equal for first place, each will receive a full award.
Donor: The Escheated Estates Fund of The University of Alberta.
Apply: By nomination from Faculty/Department.

The Daniel Bowie Memorial Scholarship in Special Education

Field: Special Education
Value: $500
Number: 1

Conditions: To be awarded annually to a student entering fourth year of the BEd program and registered full-time in a Special Education program. Applicants must have superior academic standing and, through work experience and/or research efforts, indicate a dedication to students with emotional/behavioral problems. Applicants must be residents of Alberta and Canadian Citizens or Permanent Residents. Applicants may indicate a financial need.
Donor: The parents of Daniel Bowie, A Special Education student who passed away tragically.
Apply: Applicants must submit a letter of application and all university marks and arrange to have two referees forward evaluation reports to the Department of Educational Psychology by May 20 of any given year. The Department will forward the recipient's name to the Office of Student Awards by June 3.
Inquiries: All inquiries and referees' evaluation reports should be addressed to: The Chair, Department of Educational Psychology, 6-102 Education North, University of Alberta, Edmonton, Alberta, T6G 2G5.

The Margaret Ann Brine Scholarship in Music Education

Value: $1,500
Number: 1
Conditions: To be awarded annually to a student of outstanding merit at the end of the first, second or third year of the Bachelor of Education program, majoring in Music.
Donor: Endowed by the Edmonton Musical Club upon its dissolution in 1973.
Apply: By nomination from Faculty/Department

The Earl Buxton Memorial Scholarship

Field: Secondary Education
Value: $250
Number: 1
Conditions: To be awarded annually on the basis of academic standing to a student completing the second or third year of the secondary route of the BEd Program, who is majoring in the teaching of English.
Donor: Family and friends of the late Earl Buxton.
Apply: By nomination from Faculty/Department.

The Friends of the University Scholarship in Early Childhood Education

Field: Elementary Education (Early Childhood)
Value: $250
Number: 1
Conditions: To be awarded annually on the basis of high academic attainment to a student entering the fourth year of the BEd program, specializing in Early Childhood Education.
Where tenable: University of Alberta.
Donor: Friends of the University.
Apply: By nomination from Faculty/Department.

The Florence Hallock Memorial Scholarship

Field: Home Economics in Education
Value: $600
Number: 1
Conditions: Offered annually to a student of outstanding merit in the Faculty of Education with a major in Home Economics.
Donor: The Alberta Home Economics Association, Edmonton Area Branch.
Apply: By nomination from Faculty/Department.

The Dr May Hall James Exchange Scholarship

Field: Education
Value: $1,500
Number: 1
Conditions: The Faculty of Education of The University of Alberta has an arrangement with Central Connecticut State University under which an annual exchange of a student from each institution to the other takes place. Applicants must have just completed the first year of the BEd degree program. The basis of award will be high academic standing, suitable personal qualifications, and an interest in extracurricular activities.
Full academic credit will be given for the year's study in Connecticut. A student accepted on this exchange will be considered eligible for other awards or financial assistance for the year away.
Donor: The Escheated Estates Fund of The University of Alberta.
Apply: The Dean of the Faculty of Education by May 1.

The Lou Hyndman Edmonton Glenora Scholarships

Field: Law, History, Political Science, Education, Business, Economics, Canadian Studies, or Women's Studies.
Value: $4,000 for each of the last two years of the degree program.
Number: 2 new awards per year.
Conditions: These scholarships are awarded on the basis of academic achievement and demonstrated community service. The first year of the award may be taken away from the University of Alberta to another university in Canada or elsewhere. Renewal of the award for the second year is contingent upon satisfactory academic standing on a full, normal course load during the first year of the award. For the 1991 competition only, students registered in the fourth year of Canadian Studies or Women's Studies with minors in Political Science or History will be eligible to apply.
Donor: Endowed by the Trustees of the Lou Hyndman Campaign Trust Fund on behalf of the Edmonton Glenora Progressive Conservative Association.
Apply: Director of Student Awards by October 15 on the University of Alberta Leadership Awards application form.

Massing Family Scholarship

Field: Education
Value: $750
Number: 1
Conditions: To be awarded annually to an Alberta resident entering either the second, third, or fourth year of the Faculty of Education in any discipline on the basis of superior academic achievement.
Donor: Endowed by the family of Ottar and Muriel Massing.
Apply: By nomination from the Faculty of Education.

The ME LaZerte Memorial Scholarship

Value: $750
Number: 1
Conditions: Offered annually to a student completing first year of the Bachelor of Education program and proceeding into second year in the succeeding academic session. The basis of the award will be academic standing and promise of professional competence.
Donor: Education Society of Edmonton.
Apply: Director or Student Awards by June 3.

The EE and GS Lord Memorial Prize

Field: Faculty of Education
Value: $950
Number: 1
Conditions: To be awarded annually to a student in the graduating year of the Faculty of Education who is judged to be the outstanding practicum student in the final practicum of any of the program routes of the faculty.
Donor: Endowed by Mr George W Lord.
Apply: By nomination from the Faculty of Education.

The Matthew McCauley Memorial Prize in Education

Field: Education
Number: 1
Value: $300 plus a copy of the book, *Looking Back*
Conditions: To be awarded annually to a first, second, or third year student in the Faculty of Education who is a graduate of an Edmonton high school. The basis for selection is superior academic achievement and leadership qualities as demonstrated by community involvement and extracurricular activities. Receipt of the prize is conditional on the recipient returning to the University of Alberta the subsequent year as an undergraduate.
Donor: Endowed by the family and friends of the late Matthew McCauley, a founding trustee, and first chair of the Edmonton Public School Board. Historians proclaimed him Father of the Edmonton School System.
Apply: To the Director of Student Awards by October 15 on the Leadership Award Application Form.

The Gordon Nicolson Memorial Scholarship in Vocational Education

Field: Vocational Education
Value: $500
Number: 1
Conditions: To be awarded annually to a full-time student entering the third year of the Vocational Education program on the basis of high academic standing and contribution to student life through departmental and faculty activities.
Apply: Applications must be made on a form available from the office of the Chair, Department of Industrial and Vocational Education. Application Deadline: December 1 preceding entry to the professional term.
Donor: Endowed through a gift to the university by Mrs Hertha Nicolson, widow of the late Mr Gordon Nicolson.

The Edna Catherine Press Memorial Prize

Field: Elementary Education
Value: $800
Number: 1
Conditions: To be awarded annually to a student completing the third year in a Bachelor of Education program (Elementary Education route) on the basis of superior academic achievement and excellence in practicum classroom work.
Donor: Endowed by husband and friends of the late Professor Emeritus Edna Catherine Press.
Apply: By nomination from the Department of Elementary Education.

The Hazel Alberta Robinson Memorial Scholarship

Field: Education
Value: $1,100
Number: 1
Conditions: To be awarded annually to the student in the Bachelor of Education program who has the highest grade in English 290 (creative writing), provided the grade achieved in the course, and the overall grade point average of the student, is not less than 7.
Donor: The Estate of the late Georgina Catherine Robinson.
Apply: By nomination from Faculty/Department.

The Iva and Walter Schendel Scholarship in Educational Psychology

Field: Educational Psychology
Value: $400
Number: 1
Conditions: To be awarded annually to a student entering the 2nd, 3rd or 4th year of a specialization program in Educational Psychology. The award will go to a student who shows superior academic achievement in the field of Educational Psychology and evidence of commitment to a career in Educational Psychology.
Donor: Endowed by Bob and Janette Fox in honor of Janette's parents, Iva and Walter Schendel of Corvallis, Oregon.
Apply: By nomination from the Department of Educational Psychology.

The JH Shoctor Prize in Drama

Field: Education
Value: $200
Number: 1
Conditions: To be awarded annually on the basis of high academic achievement to a student in the Bachelor of Education program with specialization in Drama.
Donor: Endowed by a gift from Mrs Eva Gorasht of Edmonton, Mr Joe Hoffman of Calgary, and Mrs Enid Wine of Saskatoon.
Apply: By nomination from Faculty/Department.

The University Bursary in Education

Value: $300
Number: 1
Conditions: Offered on the basis of academic standing and financial need to a student completing the second or third year of the elementary route of the Bachelor of Education and proceeding into the next year in the immediate next session.
Donor: The Escheated Estates Fund of The University of Alberta.
Apply: Director of Student Awards by June 3.

The John and Vera Weir Scholarship in Special Education

Field: Special Education
Value: $750
Number: 4
Conditions: Awarded annually to students entering third or fourth year of the Special Education Program. The basis for selection is satisfactory academic standing combined with such personal qualities as patience, dedication and understanding for those who have language and learning disabilities. The award is restricted to Canadian Citizens who are Permanent Residents of Alberta. Financial need of the recipient may also be considered.
Donor: Mr and Mrs John Weir of Edmonton.
Apply: By nomination from Faculty/Department.

The Don Wright Scholarship in Music Education

Field: Vocal and Choral Music
Value: $600
Number: 1
Conditions: To be awarded annually to a full-time student working towards the Bachelor of Education degree in the Music specialization program who has demonstrated a special aptitude for vocal and choral music and the teaching of the same, especially in grades 5 to 9 (the changing voice).
Donor: Dr Don Wright, Toronto.
Apply: The recipient of the award will be selected by a Music Scholarship Committee within the Faculty of Education.

The Don Wright Scholarship in Music Education

Field: Practical Instrumental Arranging
Value: $600
Number: 1
Conditions: To be awarded annually to a full-time student working toward the Bachelor of Education degree in the Music specialization program who has demonstrated a talent and achievement in the field of practical instrumental arranging and orchestration, with particular reference to music education.
Donor: Dr Don Wright, Toronto.

Apply: The recipient of the award will be selected by a Music Scholarship Committee within the Faculty of Education.

The Lauren Sydney Zeli Memorial Scholarship in Special Education

Field: Special Education (Learning Disabled, Mentally Disabled, Physicaliy Disabled)
Value: $500 (depending on final amount in endowment)
Number: 1
Conditions: Awarded annually to a student entering third or fourth year of the Special Education Program. The basis for selection is satisfactory academic standing combined with such personal qualities as patience, dedication and understanding for those who have learning/mental disabilities or are physically handicapped.
Donor: Endowed by the family and friends of the late Lauren Sydney Zeli.
Apply: By nomination from the Faculty of Education, Special Education Area.

223.6.2 Awards From Other Sources

The Home Economics Council of the Alberta Teachers' Association Scholarship

Field: Education/Major Home Economics
Value: $500
Number: 1
Conditions: To be awarded annually to a student entering fourth year of the Faculty of Education at the University of Alberta, with a major in Home Economics. The basis for the award will be academic achievement and Home Economics involvements.
Donor: Home Economics Specialist Council of the Alberta Teachers' Association.
Apply: Mr Bill Anderson, ATA, Barnett House, 11010-142 Street, Edmonton, T5N 2R1.

223.7 Faculty of Engineering

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.7.1 Undergraduate Awards

Note: Medals and awards to graduating students are listed first. All other awards are listed alphabetically.

The Henry Birks and Sons, Limited, Medal

Conditions: Awarded to a graduating student from the Faculty of Engineering on the basis of academic standing in the final two years (grade-point average not less than 7.0) and qualities of leadership and character.
Apply: By nomination from Faculty/Department.

The APEGGA Medals

Number: 13
Conditions: Awarded annually to the graduating student with the highest academic standing in each of the engineering programs accredited by the Canadian Accreditation Board of Canadian Council of Professional Engineers (Chemical, Civil, Computer, Electrical, Mechanical, Mineral Process, Mining, Petroleum, Metallurgical, and Agricultural Engineering, Geology, Geophysics, and Engineering Physics). The basis of selection will be the academic record of the third and fourth year combined, which must be no less than 7.5. The University withholds the right of not awarding any or all medals.
Donor: The Association of Professional Engineers, Geologists, and Geophysicists of Alberta.
Apply: By nomination from the Faculty of Engineering.

The Society of Tribologists and Lubrication Engineers Book Prize

Field: Agricultural Engineering/Mechanical Engineering
Value: Book award worth approximately $300; specifically the donor's Handbook of Lubrication, Theory and Practice of Tribology (two volume set).
Number: 1
Conditions: To be awarded annually to a graduating student of either Agricultural or Mechanical Engineering on the basis of ability, aptitude, and interest in the area of lubrication. If there is no suitable candidate, no award will be made.
Donor: The Alberta Section of the Society of Tribologists and Lubrication Engineers. The donor will provide the award directly to the student.
Apply: By joint nomination from the Departments of Agricultural Engineering and Mechanical Engineering.

The Instrument Society of America — RT McKenzie Memorial Book Prize

Field: Chemical Engineering
Value: $500
Number: 1
Conditions: Awarded to the graduating student with the highest standing in the process dynamics and control pattern.
Donor: Instrument Society of America, Edmonton Section.
Apply: By nomination from Faculty/Department.

The Jessie E Paull Memorial Prize

Field: Highway Engineering
Value: $200
Conditions: Offered annually to the student obtaining the highest standing in Civil Engineering 410 provided that the student obtains a grade of at least 7 in this subject and is registered in a full year's program.
Donor: Endowed by Mr AM Paull, formerly Chief Highway Construction Engineer, Province of Alberta.
Apply: By nomination from Faculty/Department.

The Alberta Chapter of the American Concrete Institute Prize in Civil Engineering

Field: Civil Engineering
Value: $350
Number: 1
Conditions: Offered annually to a student entering fourth year Civil Engineering who has demonstrated an interest in concrete construction. The recipient of the award will be selected on the basis of having achieved the highest academic standings in the third year courses Civil Engineering 401, 460, 471. The recipient must be a Canadian Citizen who has completed the third year of Civil Engineering at the University of Alberta.
Donor: Endowed by the Alberta Chapter of the American Concrete Institute.
Apply: By nomination from the Department of Civil Engineering.

The Alberta Energy Company Ltd Scholarships

Field: Petroleum Engineering, Economics, Geology
Number: Three (one in each program)
Value: $2,000
Conditions: To be awarded annually on the basis of outstanding scholarship to Canadian students or Permanent Residents who have completed the third year of studies in the four year Honors or Specialization degree programs in either Petroleum Engineering, Economics, or Geology.
Donor: The Alberta Energy Company Ltd.
Apply: By nomination from Faculty/Department.

The Alberta Power Centennial Awards

Field: Electrical Engineering, Mechanical Engineering
Value: $2,000 each
Number: 2 (one in each field)
Conditions: Awarded annually to students entering the third year of the above programs. Selection will be based upon satisfactory academic standing, well-rounded personality, interpersonal skills, and leadership potential through extracurricular activities.
Donor: Endowed in 1987 by Alberta Power Limited to commemorate the 100th anniversary of the creation of engineering as an organized profession. APL will try to offer summer employment to the five finalists in each competition.
Apply: Office of Student Awards by October 1.

The American Society for Metals Prize in Metallurgical Engineering

Field: Metallurgical Engineering
Number: 1
Value: $400
Conditions: To be awarded annually to the student with superior academic achievement in completion of MET E 352 and intends to continue with the Materials Program.
Donor: Endowed by the American Society for Metals (Edmonton Chapter)
Apply: By nomination from the Department of Mining, Metallurgical and Petroleum Engineering.

The R Angus Alberta Limited Scholarship

Field: Civil Engineering (Highway options)
Value: $500
Conditions: Awarded to a student of outstanding merit entering fourth year Civil Engineering and registered in the elective courses in Highway Engineering. To qualify, the student must have achieved an average of at least 7.0 on the complete third year program in the Department.
Apply: By nomination from the Deparment of Civil Engineering.

The APEGGA HR Webb Memorial Scholarship

Value: $1,000
Conditions: Offered annually to a student completing the first and entering the second year of the Faculty of Engineering.
Donor: The Association of Professional Engineers, Geologists and Geophysicists of Alberta, in memory of Professor HR Webb, former registrar of the Association.
Apply: Director of Student Awards by June 3.

The ATRC Telecommunications Undergraduate Research Awards

Field: Development of engineering applications in telecommunications through disciplines of engineering, computing sciences and other fields.
Value: Current value ranges from $2,400 to $3,000 per year plus travel (if necessary).
Number: Variable
Conditions: Awarded to Canadian students completing the third or fourth year of undergraduate study and receiving a NSERC Undergraduate Student Research Award. Candidates must carry out their work at ATRC. Selection based on superior academic achievement.
Donor: The Alberta Telecommunications Research Centre (ATRC) has established this award to promote and advance technological innovations in the telecommunications field by joint participation between academic and industrial researchers.
Apply: Mr WL Olsen of the Alberta Telecommunications Research Centre, #200, 4245 - 97 St., Edmonton, Alberta T6E 5Y4.

The Bechtel Canada Engineering Bursaries

Value: $500
Number: 3
Conditions: To be awarded annually to students entering second, third, or fourth year Faculty of Engineering based on academic standing. Must have attended a Canadian high school.
Donor: Bechtel Foundation of Canada
Apply: Director of Student Awards by June 3.

The Board of Governors Prizes in Engineering

Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first, second and third years of the Faculty. If two or more students are equal for first place, each will receive a full award.
Donor: The Escheated Estates Fund of The University of Alberta.
Apply: By nomination from Faculty/Department

The Dr CW Bowman Scholarship in Chemical Engineering

Field: Chemical Engineering
Value: $500
Number: 1
Conditions: To be awarded annually to a student entering the second year of the Chemical Engineering program on the basis of superior academic achievement.
Donor: Endowed by funds provided by the 1989 AOSTRA Karl A Clark Distinguished Service Award presented to Dr CW Bowman for his outstanding contributions to the furthering of Oil Sand Technology in Alberta.
Apply: By nomination from the Faculty/Department.

The BP Canada Bursary

Value: $1,000
Number: 1
Conditions: To be awarded annually to a student enrolled in either of the following areas: Geology, Geography, Cartography, Meteorology, Geophysics, Soil Science, Engineering, Business, or Economics, on the basis of academic standing.
Donor: BP Canada Inc.
Apply: Director of Student Awards by June 3.

The CADE/CAODC Spring Drilling Conference Scholarship

Field: Petroleum Engineering
Value: $500
Number: 1
Conditions: Awarded annually to an undergraduate student in the third year of the Petroleum Engineering program. The award is based on superior academic achievement.
Donor: Endowed by 1989 CADE/CAODC Spring Drilling Conference.
Apply: By nomination from the Department of Mineral, Metallurgical and Petroleum Engineering.

The Cactus Drilling Corp. Ltd Bursary

Field: Geology or Engineering
Value: $500
Conditions: Offered to a student entering final year of the general or honors program in Geology or final year in Engineering on the basis of academic standing, financial need and contribution to extracurricular student activities.
Apply: Director of Student Awards by June 3.

The Canadian Gas Processors Association Silver Anniversary Scholarships

Field: Engineering
Value: $500
Number: 2
Conditions: To be awarded annually to two students: one entering the third year and one entering the fourth year of the Faculty of Engineering at the University of Alberta. The basis for selection is academic standing.

Donor: Canadian Gas Processors Association.
Apply: Director of Student Awards by June 3.

The Canadian Occidental Petroleum Ltd. Bursary

Field: Geology, Engineering or Geophysics
Value: $1,500
Conditions: Offered annually to a student entering fourth year in Honors Geology, Engineering or Geophysics who has indicated an interest in the petroleum Field. Basis of award will be academic standing.
Apply: Director of Student Awards by June 3.

The Canadian Portland Cement Association Award

Field: Civil Engineering
Value: $500
Number: 1
Conditions: To be awarded annually on the basis of acceptable academic standing and demonstrated experience in the concrete construction field and/or related interest (masonry, reinforced concrete, precast concrete, concrete pipe, concrete paving, etc.) to a student entering the fourth year of the Civil Engineering program. Candidates must be Canadian Citizens or Landed Immigrants who have been Permanent Residents of Alberta for at least two years prior to their nomination.
Donor: The Canadian Portland Cement Association (Prairie Provinces Region).
Apply: By nomination from Faculty/Department.

The Canadian Society for Chemical Engineering Prize in Chemical Engineering

Value: $50, a Medal, a Certificate of Merit and a two-year subscription to *The Canadian Journal of Chemical Engineering*
Conditions: Awarded annually to the student in Chemical Engineering who obtains the highest standing in the work of the third year, provided that the student's general record is satisfactory to the Faculty of Engineering Council.
Donor: The Canadian Society for Chemical Engineering. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Canadian Society for Civil Engineering Award

Field: Civil Engineering
Value: $100 and commemorative plaque
Conditions: Awarded annually to the student submitting the best technical report for Civil Engineering 500. Selection will be made by a panel of practicing engineers nominated by the Executive Committee of the Edmonton Section, The Canadian Society for Civil Engineering.
Apply: By nomination from Faculty/Department.

The Tom Chambers Awards

Field: Engineering
Value: $1,500
Number: 4
Conditions: Awarded annually to students entering second, third or fourth year Engineering who have satisfactory academic standing and who have demonstrated leadership skills and potential through involvement in community and/or extracurricular activities. Recipients must be Canadian Citizens or Permanent Residents and Alberta residents.
Donor: Endowed by Tom Chambers Scholarship Committee
Apply: Director of Student Awards by October 15 on the University of Alberta Leadership Award application form.

The Chevron Canada Resources Limited Scholarship in Engineering

Field: Chemical, Mechanical, or Mineral Engineering
Value: $1,000
Number: 2
Conditions: Offered annually to students of outstanding merit who are entering the final year in one of the above Departments and who are interested in the field of petroleum production. In selecting candidates, factors such as initiative and community involvement will be considered in addition to academic excellence.
Donor: Chevron Canada Resources Limited
Apply: By nomination from Faculty/Department.

Cominco Limited Scholarship in Engineering and Geology

Field: Mining Engineering, Metallurgical Engineering, Chemical Engineering, and Honors Geology
Value: $4,000 ($2,000 per year for two years)
Number: 1
Conditions: Awarded annually to a student entering the final two years of a program in Mining Engineering, Chemical Engineering, Metallurgical Engineering, and Honors Geology. The scholarship will be awarded to a student who has demonstrated a sincere interest in the mining, chemical or metallurgical industries, shows qualities of leadership and engineering promise, is in the upper half of the class, and is eligible to work in Canada. The award will be renewed if the student maintains
Donor: Cominco Limited, Vancouver, BC
Apply: Director of Student Awards by June 3.

The Digital Equipment of Canada Prize

Field: Computer Engineering, Computing Science, or Mathematics
Value: $250
Number: 1
Conditions: To be awarded annually on the basis of superior academic achievement to a student entering the second, third, or fourth year of either a program in Computing Science, Mathematics, or Computer Engineering.
Donor: Digital Equipment of Canada Limited.
Apply: Director of Student Awards by June 3.

The Delta Catalytic Corporation Scholarship

Field: Civil, Electrical, and Chemical Engineering
Value: $1000
Number: 1
Conditions: To be awarded annually to a student entering either the second or the third year of the Civil, Mechanical, Electrical, or Chemical Engineering program of study at the University of Alberta. The successful recipient will be selected on the basis of academic performance.
Donor: Delta Catalytic Corporation.
Apply: Director of Student Awards by June 3.

The Dorch Brothers Scholarship

Field: Medicine, Chemistry, or Chemical Engineering
Value: $750 (Renewable for 2 years upon proof of satisfactory academic standing)
Number: 2
Conditions: Open to students whose homes are in the county of Vulcan and who have completed either the first year of Medicine or the second year of a BSc Program in Chemistry or Chemical Engineering. Selection will be on the basis of superior academic achievement and financial need.
Donor: Endowed by the late Peter Nelson Anderson as a memorial to his deceased brothers, John Frederick Marius Dorch, and Henry Sylvester Dorch.
Apply: Director of Student Awards by June 3.

The Edmonton Chapter of the Canadian Society for Chemical Engineering Prize in Chemical Engineering

Value: A $100 Book Prize and $100 Cash Award
Conditions: Awarded annually to the student entering second year of the Chemical Engineering program who obtains the highest standing amongst all the other second year entrants from the regular first-year engineering program at the University of Alberta.
Donor: The Edmonton Chapter of the Canadian Society for Chemical Engineering. The donor will present the award to the student at the society's annual 'Student Night' and technical meeting held in late Fall each year.
Apply: By nomination from Faculty/Department.

The Engineers Collaborative - JR Ogilvie Memorial Scholarship

Field: Civil Engineering
Value: About $500
Number: 1
Conditions: To be awarded annually to a student in Civil Engineering, on the basis of the standing attained in structural design courses up to and including those normally included in the program to the end of term seven. Financial need of the student may also be taken into consideration.
Donor: Permanently endowed by the Engineers Collaborative of Edmonton, in memory of the late JR Ogilvie, PEng (Civil '49), a partner in the firm.
Apply: By nomination from Faculty/Department.

The Frances Irene Fallis Memorial Award in Electrical Engineering

Field: Electrical Engineering
Value: $300
Number: 1
Conditions: Awarded to the female student with the highest academic standing in the graduating class of Electrical Engineering.
Donor: Endowed by Sarah T Harris in memory of her grandmother Mrs Frances Fallis.
Apply: By nomination from the Department of Electrical Engineering.

The Leonard E Gads Memorial Scholarship

Value: $700
Number: 1
Conditions: To be awarded yearly on behalf of the Civil Engineering Class of 1955, to a third year Civil Engineering student entering fourth year, who qualifies in the areas of academic standing, extra-curricular activities and financial need.
Donor: Endowed by the Civil Engineering Class of 1955 from the University of Alberta in memory of Dr Leonard E Gads, former Associate Dean of the Faculty of Engineering.
Apply: By nomination from the Department of Civil Engineering.

The Gas Company Scholarships

Value: $500 each
Number: 2
Conditions: Offered annually on the basis of academic standing and financial need to students entering second or third year.
Donor: Northwestern Utilities Limited.
Apply: Director of Student Awards by June 3.

The Inland Cement Limited Scholarship

Field: Civil Engineering
Value: $600
Conditions: Offered annually to a student of outstanding merit entering the fourth year of Civil Engineering. The award is based on the academic standing of a full normal third year which must be not less than 7.0.
Donor: Inland Cement Limited.
Apply: By nomination from Faculty/Department.

The Gerald A Glatz Memorial Prize

Field: Mechanical Engineering
Value: A Certificate
Number: 1
Conditions: Awarded for the best student paper presented to the Edmonton Section of the Canadian Society for Mechanical Engineering.
Donor: The Edmonton Section of the Canadian Society for Mechanical Engineering.
Apply: By nomination from Faculty/Department.

The Capt Thomas Farrell Greenhalgh Memorial Scholarships in Chemical Engineering

Field: Chemical Engineering
Value: $5,000
Number: 2
Conditions: To be awarded annually on the basis of superior academic achievement, leadership qualities and contributions to extracurricular and/or community activities, to one student entering the third year and one student entering the fourth year of the Chemical Engineering program.
Donor: Endowed by Flora Greenhalgh.
Apply: By nomination from the Department of Chemical Engineering.

The Albert Hanson Memorial Scholarship in Metallurgical Engineering

Field: Physical Metallurgy
Value: $500
Number: 1
Conditions: Offered annually to a student entering fourth year Engineering in the Department of Metallurgical Engineering, specializing in physical metallurgy, for outstanding merit and scholastic achievement.
Donor: Endowed by Hanson Materials Engineering, in memory of Dr Albert Hanson, founder and late Chair of the Board of Hanson Materials Engineering and Graduate and Friend of the University.
Apply: By nomination from the Department of Mining, Metallurgical and Petroleum Engineering.

The Kieran Hayden Memorial Award in Mechanical Engineering

Field: Mechanical Engineering
Value: $2,000 - $2,500
Number: 1
Conditions: To be awarded annually to a student entering the third or fourth year of the Mechanical Engineering program. Selection will take into consideration the academic performance of the student combined with his or her contribution to community service and to engineering student activities, as well as participation in athletic or other creative activities. The financial need of the student may also be considered.
At the discretion of the Selection Committee, the bursary may not be awarded if in its opinion no suitably qualified student can be found.
Donor: Endowed by the family and friends of the late Kieran Hayden, a Mechanical Engineering graduate from the University of Alberta.
Apply: To the Chair, Mechanical Engineering, by February

The Pat Heron Commemorative Bursary

Field: Engineering
Number: 1
Value: Tuition, books and supplies
Conditions: To be awarded annually to a student entering the third or fourth year of the engineering program. Selection will take into consideration the satisfactory academic performance of the student combined with his or her contribution to community service and to engineering student activities, as well as participation in athletic or other creative activities. The financial need of the student will also be considered.

At the discretion of the Selection Committee, the bursary may not be awarded if in their opinion no suitably qualified student can be found.
Donor: Endowed by the family and friends of the late Pat Heron, a former Engineering student at the University of Alberta.
Apply: To the Dean, Faculty of Engineering, by February 1st.

The Hewlett-Packard (Canada) Ltd Calculator Awards

Field: Computing Science
Value: HP 28S Calculator
Number: 10
Conditions: To be awarded annually to the top 10 students entering their second year of studies who have demonstrated excellence in the computing sciences area.
Donor: Hewlett-Packard (Canada) Ltd.
Apply: By nomination from Faculty/Department.

The Walter A and Margaret Hiller Construction Engineering Scholarship

Field: Construction Engineering (Civil Engineering)
Number: 1
Value: $1,000
Conditions: To be awarded annually on the basis of superior academic achievement and demonstrated interest in Construction Engineering to a student entering the fourth year of a Civil Engineering program in which a significant number of Construction Engineering courses have been completed. Students in a construction engineering program at the University of Alberta will be given first priority in the selection process. Candidates must be Canadian Citizens who have completed their final two years of high school in Alberta.
Donor: Endowed by Mr and Mrs Walter A Hiller.
Apply: By nomination from the Department of Civil Engineering.

The IEEE Northern Canada Section Scholarship

Field: Electrical or Computer Engineering
Value: $900
Number: 1
Conditions: To be awarded annually to a student entering third year Electrical or Computer Engineering. Selection will be on the basis of high academic merit. In the event that more than one student qualifies to receive this award, preference will be given to members of the Institute of Electrical and Electronic Engineers.
Donor: Endowed by the Institute of Electrical and Electronic Engineers Northern Canada Section, Region #7.
Apply: By nomination from the Department of Electrical Engineering, including the IEEE Student Branch Counselor.

The Douglas Farquhar Johnston Bursaries in Engineering

Field: Mining, Metallurgical and Petroleum Engineering
Value: $1,000 each.
Number: 5.
Conditions: Offered annually to students entering the third or fourth year in Mining, Metallurgical and Petroleum Engineering. Awards will be based on academic standing and financial need. If there are no suitable candidates entering fourth year, those entering third year may be considered.
Donor: Endowed by the late Mr Johnston.
Apply: By nomination from Faculty/Department.

The Russel Jordan Memorial Scholarship in Petroleum Engineering

Field: Petroleum Engineering
Value: $500 - $750
Number: 1
Conditions: To be awarded annually to a Canadian Citizen or Permanent Resident residing in Alberta and entering fourth year in Petroleum Engineering at the University of Alberta. Selection will be based upon superior academic standing, demonstrated leadership qualities, and involvement in amateur sports. If there are no suitable candidates entering fourth year, those entering third year may be considered.
Donor: Endowed by the family and friends of the late Russel Jordan, a 1982 Petroleum Engineering graduate from the University of Alberta.
Apply: By nomination from the Department of Mining, Metallurgical, and Petroleum Engineering.

The Dunc Larbalestier Memorial Bursary

Field: Civil Engineering
Value: $400
Number: 1
Conditions: Awarded annually to a student entering second year of Civil Engineering. The award is based mainly on financial need however academic attainment is considered.
Donor: Endowed by the Dunc Larbalestier Memorial Fund of Lions International, Edmonton District.
Apply: Director of Student Awards by June 3.

The John Paul Letkeman Scholarship in Petroleum Engineering

Field: Petroleum Engineering.
Value: $1,000
Number: 1
Conditions: Awarded annually to a student entering the third year of Petroleum Engineering. The recipient will be selected on the basis of academic performance.
Donor: D & S Petroleum Consulting Group Ltd in memory of Mr John Paul Letkeman, a former employee of the company.
Apply: By nomination from the Department of Mining, Metallurgical and Petroleum Engineering.

The Luscar Ltd. Engineering Scholarships and Bursaries

Value: $500 each
Number: 5 scholarships; 5 bursaries
Conditions: Offered to students in the Faculty of Engineering at the University of Alberta. Preference will be given to students having an interest in the mining industry. Five bursaries will be offered (one to a student in each of the five departments) to students entering the second year of Engineering at the University of Alberta. The awards will be based on satisfactory academic standing and on financial need. Five scholarships will be offered (one to a student in each of the five departments) to students entering the final year of Engineering at the University of Alberta. The award will be based on high academic standing.
Donor: Luscar Ltd., Edmonton.
Apply: By nomination from Faculty/Department.

The Masonry Contractors Association of Alberta (Edmonton Chapter) Scholarships

Value: $250
Number: 2
Conditions: To be awarded on an annual basis. One goes to a student enrolled in Civil Engineering 500 who has submitted the most outstanding report on a topic of interest to the masonry industry and one goes to the student who has performed outstanding research on a topic of interest to the masonry industry, in connection with the faculty undergraduate research programs.
Donor: Masonry Contractors Association of Alberta Edmonton Chapter.
Apply: By nomination from Faculty/Department.

The John Alexander McDougall Memorial Scholarship

Field: Civil Engineering
Value: $750
Conditions: Offered annually to a student of outstanding merit entering the fourth year of Civil Engineering, based on the work of the third year.
Donor: McDougall and Secord Limited in memory of John Alexander McDougall, a member of the first Senate of the University.
Apply: By nomination from Faculty/Department.

The Norcen Energy Resources Scholarships

Field: Geology, Geophysics, Engineering, Mechanical Engineering, and Chemical Engineering
Value: $1,500
Number: Ten distributed as follows: two in Chemical Engineering, two in Mechanical Engineering, one in Geology, one in Geophysics, and four in Petroleum Engineering (two for co-op students, and two for non co-op students).
Conditions: Offered annually to undergraduate students proceeding to either the 2nd, 3rd or 4th year of full-time studies in either chemical engineering, geophysics, geology, petroleum engineering or mechanical engineering. Selection will be on the basis of superior academic achievement with consideration given to community involvement, extra-curricular activities, and demonstrated leadership potential. In the case of a tie, the final decision will be based on financial need. Recipient must be a Canadian Citizen or Permanent Resident.
Donor: Norcen Energy Resources Limited.
Apply: By nomination from the Department.

The North American Construction Ltd Construction Engineering Award

Field: Civil Engineering
Number: 1
Value: $1,000
Conditions: To be awarded annually to a female student entering the second year of Civil Engineering with an interest in Construction Engineering. The basis for selection will be high academic standing, good personal qualities, and leadership potential. The recipient must be a Canadian Citizen or Permanent Resident.
Donor: North American Construction Ltd in recognition of providing more opportunities for women to enter the construction industry and in assisting the Canadian Government's Employment Equity Program.
Apply: By nomination from the Faculty of Engineering/ Department of Civil Engineering.
Review: A review of the award will be conducted every three years to ascertain that the Affirmative Action Clause still applies.

The Stuart Olson Undergraduate Award in Civil Engineering

Field: Civil Engineering
Value: $1,500
Number: 1 or 2
Conditions: To be awarded annually to one or two students entering the second year of Civil Engineering with an interest in Construction Engineering. The basis for selection is superior academic standing. The recipient must be a Canadian Citizen.
Donor: Stuart Olson Construction Ltd in recognition of the 50th Anniversary of Stuart Construction.
Apply: By nomination from the Faculty of Engineering/ Department of Civil Engineering.

The Nick Oneschuk Memorial Scholarship

Field: Civil Engineering
Number: 1
Value: About $800
Conditions: To be awarded annually to a student of outstanding academic merit entering the fourth year of the BSc program in Engineering who has significant interest in construction engineering. The basis for selection will be high academic standing, good personal qualities, and leadership potential.
Donor: PCL Construction Ltd in memory of the late Nick J. Oneschuk.
Apply: By nomination from Faculty/Department.

The Randy Duane Rawson Memorial Scholarship in Electrical Engineering

Field: Electrical Engineering
Value: About $400
Number: 1
Conditions: To be awarded annually on the basis of high academic standing and financial need to a student entering the second, third, or fourth year of the Bachelor of Science program in Electrical Engineering.
Donor: The family and friends of Randy Duane Rawson, a former student.
Apply: By nomination from Faculty/Department.

The Conway Reimer Memorial Scholarship in Computer Process Control

Field: Chemical Engineering - Computer Process Control
Value: $2,500 annually for 2 years (second year contingent upon proof of satisfactory academic standing).
Number: 1
Conditions: To be awarded annually to a Canadian Citizen or Permanent Resident entering the third year of a program in the Department of Chemical Engineering specializing in the area of "Computer Process Control". The award will be made on the basis of superior academic achievement, demonstrated interest and capability in the area of computer applications, and qualities of leadership and character.
Donor: Endowed by Hewlett Packard (Canada) Ltd in memory of Conway Reimer, former Computer Sales Manager for Western Canada for Hewlett Packard.
Apply: By nomination from the Department of Chemical Engineering.

The DB Robinson Prize in Thermodynamics

Field: Thermodynamics - Chemical Engineering
Value: $200
Number: 1
Conditions: To be awarded annually to a student who has shown high academic merit in the study of Thermodynamics (CHE 424).
Donor: Endowed by the Faculty of Engineering, the colleagues and friends of Dr Donald B Robinson upon his retirement in 1984, after 36 years of distinguished service in the Department of Chemical Engineering.
Apply: By nomination from the Department of Chemical Engineering.

The JM Sharpe Memorial Prize

Field: Electrical Engineering
Value: $350
Number: 1
Conditions: To be awarded annually to a student of outstanding merit in either of the two optional routes of study in the third year of the Department of Electrical Engineering.
Donor: Electrical Equipment (Alberta) Ltd.
Apply: By nomination from Faculty/Department.

The Sherritt Gordon Limited Scholarships

Field: Chemical Engineering
Value: $750
Number: 2
Conditions: Awarded annually to two students of outstanding merit entering fourth year Chemical Engineering.
Donor: Sherritt Gordon Limited.
Apply: By nomination from Faculty/Department.

The Sherritt Gordon Limited Scholarships

Field: Metallurgy
Value: $750
Number: 2
Conditions: Offered annually to students entering the second, third or fourth year of the Mining, Metallurgical and Petroleum Engineering program on the basis of academic standing and financial need.
Donor: Sherritt Gordon Limited.
Apply: By nomination from Faculty/Department.

The Julian C. Smith Memorial Award

Field: Civil, Mechanical or Electrical Engineering
Value: $400
Conditions: Tenable at The University of Alberta once every third year to a third year student in one of the above Departments specializing in Energy Resources Engineering directed towards the production, transmission or distribution of electrical energy.
Donor: Julian C. Smith Memorial Fund.
Apply: Selection will be made by a Committee set up by the Dean.

The Wilson Sterling Memorial Book Award

Field: Mechanical Engineering
Value: Mark's Standard Handbook for Mechanical Engineers
Number: 1
Conditions: Awarded to the student who in the opinion of the Department has shown superior academic achievement in the undergraduate design courses.
Donor: Endowed by Mrs B Sterling & Family
Apply: By nomination from the Department.

The Stetson Scholarships in Agriculture and Engineering

Field: Agriculture (excluding Forestry) and Engineering
Value: $2,500
Number: 2 - one award in Agriculture, and one award in Engineering
Conditions: Awarded annually on the basis of academic attainment and financial need to students entering the third or fourth year of their program. Applicants must have been residents of Alberta for the previous five years.
Donor: The Scholarship was funded in recognition of the contribution made by Minot and Rosamond Stetson in the areas of agriculture and education in this province.
Apply: Director of Student Awards by June 3.

The Robert Stollery/USF and G Insurance Company of Canada Award in Construction Engineering

Field: Construction Engineering
Value: $1,250. (value of the award will vary according to matching funds received from the Provincial Government).
Number: 1
Conditions: This award was created to recognize students who have shown interest and aptitude in the Construction Engineering Program in the Department of Civil Engineering. It will be awarded annually to a graduating student from the Department of Civil Engineering on the following criteria:

1. A grade point average acceptable for registration for graduate work in the Department of Civil Engineering.
2. The recipient will have taken a majority of Construction Engineering courses available at the University of Alberta.
3. The recipient will have demonstrated interest and involvement in the construction industry.
4. Leadership qualities as demonstrated in class involvement, extracurricular activities, community involvement, etc.
5. Research potential as demonstrated by classroom activities, laboratory situations, class discussions, etc.

This award will be redefined as a graduate award upon the creation of a graduate program at the University of Alberta in Construction Engineering.
Donor: Endowed by United States Fidelity and Guarantee in honor and recognition of Mr Robert Stollery's outstanding contribution to the North American construction industry, and in particular for his ongoing commitment to enhancing and improving the profession.
Apply: Chair, Department of Civil Engineering by April 30.

The Suncor Inc Scholarship in Engineering

Field: Engineering
Value: $1,000
Number: 1
Conditions: Offered annually to a student entering second, third or fourth year in the Faculty of Engineering at the University of Alberta. The award will be based on academic standing and financial need.
Donor: Suncor Inc, Calgary.
Apply: Director of Student Awards by June 3.

The Sunwapta Broadcasting Scholarship

Field: Communication as related to the broadcasting and television industry
Value: $200
Number: 1
Conditions: Open to students entering fourth year Electrical Engineering or Honors Physics, or entering third or fourth years in Arts who have an interest in journalism or script writing.
Donor: Dr GRA Rice.
Apply: Director of Student Awards by June 3.

The TransAlta Utilities Memorial Scholarships

Value: $750
Number: 5
Conditions: Awarded annually to students of outstanding merit entering second year of the Engineering program. One award in each of Chemical, Civil, Electrical, Mechanical and Mineral Engineering. The basis for the award is academic attainment during the first year.
Donor: TransAlta Utilities Corporation, in memory of GA Gaherty, late Chair of the Board of TransAlta Utilities Corporation, and devoted friend of the University.
Apply: By nomination from Faculty/Department.

The Underwood McLellan Scholarship in Engineering

Field: Engineering
Value: $1,500
Number: 2
Conditions: To be awarded annually on the basis of outstanding academic merit to a student entering the fourth year in the Faculty of Engineering.
Donor: Endowed in 1980 by a gift to the University from Underwood McLellan Ltd of Calgary.
Apply: By nomination from Faculty/Department.

The Walker, Newby and Associates Ltd Scholarships in Environmental Engineering

Field: Environmental Engineering
Value: $1,000 and $500
Number: 2
Conditions: To be awarded each May to students in Civil Engineering who have successfully completed the courses Environmental Engineering I (CIV E 320), Environmental Engineering II (CIV E 520) and Municipal Engineering (CIV E 521) and who, in the opinion of the instructor, have shown interest and initiative in design problems related to municipal engineering, urban planning, design and construction.
Donor: Endowed by GC Walker (Civil '50) and LR Newby (Civil '51), and Walker and Newby and Associates Ltd. in commemoration of their 25th anniversary of practice in Alberta, and supplemented by matching investment income by the Province of Alberta Advanced Education Endowment Fund of the 1980's.
Apply: By nomination from the instructor of CIV E 521.

The Walker, Newby and Associates Ltd. Scholarship in Survey Engineering

Field: Survey Engineering
Number: 1
Value: $1,000
Conditions: To be awarded each January on the basis of performance in the courses Plane Surveying (CIV E 350), Survey Camp (CIV E 351) and Elementary Photogrammetry (CIV E 451) or Field Astronomy (CIV E 452).
Donor: Endowed by GC Walker (Civil '50) and LR Newby (Civil '51), and Walker, Newby and Associates Ltd. in commemoration of their 25th anniversary of practice in Alberta, and supplemented by matching investment income by the Province of Alberta Advanced Education Endowment Fund of the 1980's.
Apply: By nomination from the instructor of CIV E 451/CIV E 452.

Webb Memorial Student Paper Competition.

Value: $50, $30 and $20
Number: 3
Conditions: Prizes awarded each year for the three best student papers written and presented to the Engineering Students' Society, at its regular meetings. Eligibility requires membership in the Society and the rules of the competition are set forth in the constitution of that body.
Donor: Engineering Students' Society.
Apply: By nomination from Faculty/Department.

Western Caissons Limited Undergraduate Course Prize in Construction Engineering

Field: Civil Engineering with construction engineering elective.
Value: $500 per annum in 1990 and 1991, increasing to $1000 per annum by 1994.
Number: 1
Conditions: To be awarded annually to the student in third or fourth year Civil Engineering with a GPA sufficient for admission to the Faculty of Graduate Studies and Research who obtains the highest mark in CIV E 402 "Materials and Methods of Construction." Applicants must be Canadian Citizens or Landed Immigrants.
Donor: Western Caissons Limited.
Apply: By nomination from the Department of Civil Engineering.

223.7.2 Awards From Other Sources

The C-FER Undergraduate Student Internships

Field: Engineering
Value: Variable
Number: 2
Conditions: To be offered annually to outstanding students who have completed three years of an appropriate engineering program and have a demonstrated interest in frontier-related engineering. Recipients will be employed full-time by C-FER for two consecutive four-month work terms (January to April and May to August). The intent of the internships is to provide an initiation into research related to frontier engineering. Recipients will be selected on the basis of personal characteristics, academic performance and demonstrated interest and capability in an appropriate field. Preference will be given to students in the Cooperative Education Program, but others are welcome to apply.
Donor: C-FER.
Apply: Co-op Students should apply through the Cooperative Education Program; others may apply directly to C-FER, Building 7A, University of Alberta Campus, Edmonton, T6G 2E2.

CU Gas University Scholarship

Field: Engineering
Value: $2,000 and summer employment with Northwestern Utilities Limited
Number: 2
Conditions: Obtained marks in their first year that place them in the top half of their class. Currently enrolled in second year of Mechanical or Civil Engineering. Demonstrated leadership potential through involvement with extra curricular activities.
Apply: To apply for a 1992 CU Gas Scholarship pick up an application form from the Student Awards Office and return completed forms to the Office of Student Awards by January 31, 1992.

The Dow Chemical Canada Inc Scholarship

Field: Chemical Engineering
Value: $1,500
This award is offered to students who are in the next to last year of an undergraduate program in Chemical Engineering. The criteria for the scholarship are: academic standing in the upper half of the class, demonstrated leadership in extracurricular and/or community activities, effective communication skills, and an interest in the chemical and plastics industry.
The cash value of the scholarship is $1,500. The scholarship also carries with it an offer of a coop or summer term of employment with Dow Canada. Acceptance of this job offer is not a condition of the award. Particulars concerning application procedures will be made available by Dow Canada in September.

223.8 Faculty of Home Economics

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.8.1 Undergraduate Awards

Note: Medals and awards to graduating students are listed first. All other awards are listed alphabetically.

The Amy M Coates Memorial Medal in Foods and Nutrition

Field: Foods and Nutrition
Value: Medal
Conditions: Offered to the graduating student from the Foods and Nutrition program with the highest standing in the work of the final two years.
Donor: Mrs Diane Enilda Peers in memory of her mother Mrs Amy M. Coates.
Apply: By nomination from Faculty/Department.

The Audrey Dundas Award in Administrative Dietetics

Value: $700
Number: 1
Conditions: Offered annually to the graduating student from the Foods and Nutrition program with the highest standing in the work of the final two years, who

proceeding into an dietetic internship, preference will be given to a student entering an administrative internship. This award is tenable at any institution offering a Canadian Dietetic Association approved dietetic internship program.
Donor: Alberta Registered Dietitians Association.
Apply: By nomination from Faculty/Department.

The Warren W and Ida E Prevey Memorial Medal in Home Economics
Conditions: Awarded to the graduating student with the highest academic qualifications in the work of the final two years in Home Economics.
Donor: Endowed by Dr Esther Elizabeth Prevey in memory of her parents who believed in the values of education, especially higher education and who endowed their four children with this philosophy, all of whom graduated from The University of Alberta, two from the Faculty of Home Economics.
Apply: By nomination from Faculty/Department.

The Russell Food Equipment Limited Scholarship
Value: $350
Conditions: Offered annually to a student graduating from the Faculty of Home Economics who is proceeding to an MSc program in Foods and Nutrition or Institution Management, or into a Dietetic Internship. Scholarship is payable when registered.
Where tenable: Any approved university or institution.
Apply: By nomination from Faculty/Department.

The Alberta Home Economics Association Centennial Scholarship
Value: $1,200
Conditions: To be awarded to a student of outstanding merit on the basis of academic standing and financial need, who has completed the first year of a program leading to a BSc in Home Economics at a university or affiliated college in Alberta and who will be enrolled in the second year of Home Economics at a university in Alberta. A minimum academic standing of grade point average 6.5 or equivalent will be required.
Donor: The Alberta Home Economics Association.
Apply: Director of Student Awards by June 3.

The Alberta Wheat Pool Scholarships
Value: $200 each
Number: 4
Conditions: One award entering each of first, second, third or fourth years of Home Economics. Applicants must have been members of 4-H Homemaking clubs.
Apply: Supervisor of 4-H Clubs, Provincial Department of Culture, Youth and Recreation, CN Tower Bldg., Edmonton, T5J 0K1, by August 1.

The Board of Governors Prizes in Home Economics
Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first, second and third years of the Faculty. If two or more students are equal for first place, each will receive a full award.
Donor: The Escheated Estates Fund of the University of Alberta.
Apply: By nomination from Faculty/Department.

The Helen Desilva Buchanan Memorial Scholarship in Clothing and Textiles
Field: Clothing and Textiles
Value: $750
Number: 1
Conditions: Awarded annually, on the basis of superior academic achievement, to a fourth year student who is proceeding to a MSc in Clothing and Textiles.
Donor: Endowed by the Buchanan family.
Apply: By nomination by the Department.

The Calgary and District Home Economics Association Scholarship
Value: $500
Number: 1
Conditions: Offered annually to a student entering third year of Home Economics on the basis of academic standing. Preference is given to students whose residence is Calgary or within fifty miles of that city.
Donor: Alberta Home Economics Association, Calgary Branch.
Apply: Director of Student Awards by June 3.

The Clothing and Textiles Scholarship
Value: $200
Conditions: Awarded annually to a student of outstanding merit entering the third year of the Clothing and Textiles program. The student must have passed all subjects and obtained an average of at least 6.5 on the work of the first two years.
Donor: Endowed anonymously.
Apply: By nomination from Faculty/Department.

The Family Studies Scholarship
Value: $400
Conditions: To be awarded annually to a student of outstanding merit at the end of first, second or third year in the Faculty of Home Economics in the Family Studies program.
Donor: The Alberta Home Economics Association, Edmonton Area Branch.
Apply: By nomination from Faculty/Department.

The Hazel McIntyre Scholarship
Value: $500
Conditions: Offered annually to a student of outstanding merit entering third year in the Foods and Nutrition program, based on achievement during the first two years.
Donor: Endowed by the Alberta Home Economics Association, Edmonton Area Branch.
Apply: By nomination from Faculty/Department.

The Mabel Patrick Scholarship
Value: $900
Conditions: Offered annually to a student, on the basis of academic standing and financial need, entering third year, based on the academic record of the first two years (average not less than 6.5).
Donor: Endowed by the Alberta Home Economics Association.
Apply: By nomination from Faculty/Department.

The David Butchart Pope Scholarship
Value: $1,000
Number: 3
Conditions: Awarded annually on the basis of academic standing to students entering the fourth year. One award for each of the three programs: Clothing and Textiles, Family Studies, and Food and Nutrition. Preference will be given to rural students who are, or have been, members of farm youth organizations.
Donor: The Estate of the late David Anderson Pope, in memory of his son.
Apply: By nomination from Faculty/Department.

The Helen Moseson Samuel Scholarship
Value: $400
Conditions: To be awarded annually to a student at the end of first, second or third year in the Faculty of Home Economics in the Clothing and Textiles program.
Donor: The Alberta Home Economics Association, Edmonton Area Branch.
Apply: By nomination from Faculty/Department.

The Annie Gertrude Tory Scholarship
Value: $300
Conditions: Offered annually to a student of outstanding academic merit in the work of the second year, provided that all courses are passed and an average of at least 6.5 is obtained.
Donor: Endowed by the late Henry Marshall Tory, first President of the University, in memory of his wife.
Apply: By nomination from Faculty/Department.

223.8.2 Awards From Other Sources

The Canadian Dietetic Association Award
Field: Dietetics
Value: $300
Number: 2 for Canada-wide competition.
Conditions: Offered to a graduating Canadian Home Economics student who is proceeding to a dietetic internship or completing an integrated internship. The student must have stood in the upper quarter of the class during the final year, must meet personal qualifications, and indicate an intention to work for at least two years in the dietetic profession.
Where tenable: Any approved institution.
Apply: Submit applications through the Dean of Home Economics to the Canadian Dietetic Association by February 1.

The Canadian National Exhibition Scholarship
Field: Home Economics, Agriculture, Agricultural Engineering, Veterinary Science
Value: $600
Number: Total of 10 - one for each province. Canada-wide competition.
Where tenable: Any approved institution.
Apply: Supervisor of 4-H Home Economics and 4-H Division, Department of Agriculture, 9718-107 Street, Edmonton, T5K 2C8, by July 15.

The Economics Laboratory (Canada) Limited Award
Field: Foods and Nutrition
Value: $700
Number: 1 for Canada-wide competition.
Conditions: Offered annually to a student who is entering the final year in the Foods and Nutrition program and who plans to complete dietetic internship and work in the dietetic field. Award is based on scholarship and evidence of potential for, and interest in, the dietetic profession.
Where tenable: Any Canadian faculty of Home Economics.
Apply: Applications should be submitted through the Dean of Home Economics to the Canadian Dietetic Association prior to February 1.

223.9 Interdisciplinary Studies

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.9.1 Undergraduate Awards

The Canadian Institute of Ukrainian Studies Undergraduate Scholarships
Field: Ukrainians or Ukrainians in Canada in Education, History, the Arts, the Humanities, the Library Sciences, and the Social Sciences.
Value: $1,500 for eight-month period of study; $500 for students residing at home.
Number: Ten at $1,500; scholarships of $500 to students residing at home will increase number of scholarships available; scholarships are renewable.
Conditions: Awards are intended for students interested in an undergraduate degree with a major in Ukrainian studies, consisting of a combination of at least five full courses in Ukrainian, East European, Soviet, and/or Canadian studies in a three-year Arts program and at least eight full courses in Ukrainian, East European, Soviet, and/or Canadian studies in a four-year Arts or European program. Ukrainians or Ukrainians in Canada are to be the main concern in the above courses. Candidates must be Canadian Citizens or Permanent Residents (Landed Immigrants) at the time of application. Only in exceptional circumstances may an award be held concurrently with other awards.
Where tenable: Any Canadian university.
Apply: By January 31, for the following academic year, at The Canadian Institute of Ukrainian Studies, 352 Athabasca Hall, the University of Alberta, Edmonton, Alberta, T6G 2EB.

223.10 Faculty of Law

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.10.1 Undergraduate Awards

Note: Medals and awards to graduating students are listed first. All other awards are listed alphabetically.

The Horace Harvey Medal in Law
Conditions: Awarded to a graduating student for the highest standing in the work prescribed for the LLB degree, provided that the student obtains an average of not less than 7.0.
Donor: Endowed by the late Chief Justice of Alberta.
Apply: By nomination from Faculty/Department.

The George Bligh O'Connor Silver Medal in Law
Conditions: Offered to a graduating student for the second highest standing in the work prescribed for the LLB degree, provided that the student obtains an average of not less than 7.0.
Donor: Mrs GG Farnell, in memory of her father, formerly Chief Justice of Alberta.
Apply: By nomination from Faculty/Department.

The Judges' Bronze Medal
Value: Bronze Medal
Number: 1
Conditions: To be awarded annually to the graduating student who stands third throughout their studies in the LLB program.
Donor: The Judges' Fund.
Apply: By nomination from Faculty/Department.

The James Alexander Bryce ("Sandy") Burgess Memorial Scholarship
Value: $350
Conditions: To be offered annually to a student graduating from the Faculty of Law on the basis of academic performance and such qualities of courage and resolve as have served the candidate in surmounting formidable personal obstacles in achieving his degree.
Donor: Endowed in 1971 by classmates, teachers and

other friends of the late Mr JAB Burgess, LLB '67, in grateful recognition of his companionship and example.
Apply: By nomination from Faculty/Department.

The W Bernie Kelly, QC Memorial Prize

Field: Law
Value: $1,000
Number: 1
Conditions: To be awarded annually to a third-year student who has maintained superior academic standing and has performed with distinction in a Skills Training Course and the Professional Responsibility Course.
Donor: Endowed by the Law Society of Alberta in memory of Mr W Bernie Kelly, QC.
Apply: By nomination from the Faculty of Law.

The Honorable Clinton J Ford Shields

Number: 2
Conditions: Awarded to each of the two third-year students who make the best argument in the finals of the annual Moot Court Competition. In addition, the names of each year's winners will be recorded on a permanent plaque, a gift of the late Chief Justice.
The four finalists are selected from those students who have presented the best arguments in the second-year Moot program. The four will compete in the two teams, the winning team to receive the shields.
Donor: The late Chief Justice of Alberta. The award will be provided by the Faculty of Law directly to the student.
Apply: By nomination from Faculty/Department.

The Mr Justice WG Morrow Memorial Prize

Field: Law
Value: $250
Number: 1
Conditions: Awarded annually to the winner of the Horace Harvey Medal in Law.
Donor: The firm of Reynolds, Mirth & Cote in memory of the Honorable Mr Justice WG Morrow.
Apply: By nomination from Faculty/Department.

The National Trust Prize

Value: $150 in books
Conditions: Offered to a student of the graduating class in Law for outstanding merit in examinations in Equity I, Equity II, Real Property II, Real Property III, and Wills and Administration, provided that an average of at least 7.0 is attained on the complete second and third years.
Donor: National Trust Company Limited. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Shoctor Prize in Law

Value: $500
Conditions: Awarded to a student who has completed third year law, has maintained a satisfactory academic record and has made a significant contribution to student life at the University.
Donor: Endowed by Dr Joseph H Shoctor, QC, in memory of his late parents.
Apply: By nomination from Faculty.

The R John Adams and Agnes M Adams Prize for Research in Current Oil and Gas Issues

Field: Law
Number: 1
Value: $5,000
Conditions: Awarded annually to the second or third year Law student attaining the highest marks in a paper on contemporary legal issues in the oil and gas industry in Alberta.
Donor: R John Adams & Agnes M Adams in charitable trust in memory of, and out of respect for, their parents John & Sophie Adams & James & Agnes Mackie.
Apply: To the Faculty of Law by March 31.

The Alberta Academy of Trial Lawyers Prize in Evidence

Field: Law
Value: $200
Number: 1
Conditions: To be awarded annually to the student achieving the highest mark in the subject of Evidence.
Donor: The Alberta Academy of Trial Lawyers.
Apply: By nomination from Faculty/Department.

The Belzberg Entrance Scholarships

Field: Law
Value: $5,000
Number: 2
Conditions: To be awarded to two students entering first year who best combine superior academic achievement and community service.
Donor: The Belzberg family.
Apply: To the Faculty of Law by September 7th.

The Bennett Jones Scholarship

Field: Law
Value: $1,500
Number: 1
Conditions: To be awarded annually to a student entering the second year of Law on the basis of outstanding academic achievement during the first year.
Donor: Jones & Company Barristers & Solicitors, Calgary.
Apply: By nomination from Faculty/Department.

The Bishop and McKenzie Prize in Company and Commercial Law

Value: $500
Conditions: To be awarded annually to a student in Law for outstanding achievement in both Company and Commercial Law Courses.
Donor: Bishop and McKenzie, Barristers and Solicitors, Edmonton.
Apply: By nomination from Faculty/Department.

The Blake, Cassels & Graydon Scholarship

Field: Law
Value: $2,500
Number: 1
Conditions: To be offered annually to a student entering second year in the Faculty of Law at the University of Alberta. The award will be based on superior academic achievement in the first year of the law program.
Donor: Endowed by Blake, Cassels & Graydon, Barristers & Solicitors, Calgary, Alberta.
Apply: By nomination from the Faculty of Law.

The Board of Governors Prizes in Law

Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first and second years of the Faculty. If two or more students are equal for first place, each will receive a full award.
Donor: The Escheated Estates Fund of the University of Alberta.
Apply: By nomination from Faculty/Department.

The John E Brownlee Memorial Prize in Land Titles or Local Government Law

Value: $300
Number: 1
Conditions: To be awarded annually on the basis of outstanding merit in the subject of Land Titles or Local Government Law.
Donor: Brownlee, Fryett; Barristers and Solicitors; Edmonton.
Apply: By nomination from Faculty/Department.

The Chief Judge Nelles V Buchanan Memorial Scholarship in Litigation

Field: Law
Value: $750
Number: 1
Conditions: Awarded annually to a student entering the third year who has demonstrated an outstanding ability in Criminal Law, Torts and Evidence, and who has been successful in one of the competitive moots which are sponsored by the Faculty of Law.
Donor: Endowed by the Buchanan family.
Apply: By nomination by the Faculty.

The Laurance Y Cairns Memorial Bursary

Value: $400
Conditions: To be offered, on the basis of academic standing and financial need, to a student entering second or third year Law.
Donor: Endowed by Mrs L Jean Cairns in memory of her late husband, Judge LY Cairns, Chancellor of the University, 1958-1964.
Apply: Director of Student Awards by June 3.

The Canada Law Book Company Prizes

Value: $150 for books each
Number: 3
Conditions: Awarded to a student completing each of first, second, and third years of Law. The books are to be selected from a list submitted by the donor, the selection to be made within six months.
Apply: By nomination from Faculty/Department.

The Canadian Petroleum Law Foundation Scholarship

Field: Law
Value: $500
Number: 1
Conditions: To be awarded annually to a law student for superior academic achievement and completion of either Basic Oil and Gas Law or Natural Resources Law during the student's second year of studies.
Donor: The Canadian Petroleum Law Foundation.
Apply: By nomination from the Faculty of Law.

Canadian Petroleum Tax Society Award in Corporate Taxation

Field: Law
Value: $500
Number: 1
Conditions: To be awarded annually to the law student who attains the highest academic standing in the law course Corporate Taxation during the student's first, second, or graduating year of studies.
Donor: The Canadian Petroleum Tax Society.
Apply: By nomination from the Faculty of Law.

The Carswell Prizes in Law

Value: Books to the value of $300 at the end of third year and $150 at the end of each of first and second years.
Number: 3
Conditions: To be awarded to a student completing each of the three years of the Faculty. Books shall be selected within six months of the date of the award from a list submitted by the Company.
Donor: The Carswell Company Limited, Law Publishers.
Apply: By nomination from Faculty/Department.

The Patricia J Coffman Memorial Scholarship

Value: $400
Conditions: To be awarded annually to a student of outstanding merit entering third year of the Faculty of Law and based on the work of the second year.
Donor: Endowed by the family of the late Miss Coffman who was Librarian of the Faculty of Law 1965 to 1969.
Apply: By nomination from Faculty/Department.

The TJ Costigan Prize in Torts

Value: $200
Conditions: To be awarded annually to a student completing first year of Law for outstanding merit in the subject of Torts.
Donor: Mr TJ Costigan, QC of Blairmore, Alberta.
Apply: By nomination from Faculty/Department.

The Criminal Trial Lawyers Association Prize in Evidence

Field: Law
Value: $500
Number: 1
Conditions: To be awarded annually for outstanding merit in Evidence.
Donor: Criminal Trial Lawyers Association of Alberta.
Apply: By nomination from Faculty/Department.

The Cruickshank Karvellas, Layton, and Connauton Prize in Taxation

Field: Law
Value: $500
Number: 1
Conditions: To be awarded annually to the student in the Faculty of Law who excells in the introductory tax course.
Donor: Cruickshank Karvellas, Layton, and Connauton, Barristers and Solicitors.
Apply: By nomination from the Faculty of Law.

The Duncan & Craig Prize in Contract Law

Value: $300
Number: 1
Conditions: Awarded annually to a student successfully completing the work prescribed in First Year Law for outstanding merit in the subject of contracts.
Donor: Duncan & Craig, Barristers and Solicitors, Edmonton.
Apply: By nomination from Faculty/Department.

The Edmonton Bar Association Prize

Value: Two $250 cash prizes for the winners plus two $100 book prizes for the runners up.
Conditions: Awarded annually to the students in first year Law judged to have given the best performance in the Moot Court Competition for first year Law.
Apply: By nomination from Faculty/Department.

The Edmonton Bar Association Entrance Scholarships

Field: Law
Value: $2000
Number: 2
Conditions: Awarded annually on the basis of superior academic achievement to students entering the Faculty of Law with consideration for applicants intending to article and/or practise in the City of Edmonton.
Donor: Edmonton Bar Association.
Apply: By nomination from the Faculty of Law.

The Edmonton Consular Ball Scholarship in International Studies

Field: Political Science, History or Law
Number: 1
Value: $1,000 plus up to $1,000 in travel expenses
Conditions: Awarded to graduate students and 3rd and 4th year honors students in the Departments of Political Science and History, and students in the Faculty of Law. Applicants are to submit a proposal for a paper on any aspect of relations between nations for the preservation of world peace, although preference will be given to studies involving work of the United Nations and its agencies. The travel portion of the scholarship may be accessed to carry out research at any United Nations headquarters.

Donor: Endowed by the Edmonton Consular Corps
Apply: To the Office of Student Awards by February 28.

The William Gordon Egbert Scholarship in Administrative Law

Value: $330
Conditions: Awarded annually for outstanding merit in Administrative Law.
Donor: Mr WGN Egbert, Calgary.
Apply: By nomination from Faculty/Department.

The Howard T Emery Prize

Field: Law
Value: $500
Number: 1
Conditions: To be awarded to a student completing the first year of law who displays superior academic achievement and has made a significant contribution to the University.
Donor: The Partners of Emery Jamieson. To recognize the retirement from active practice of pioneer lawyer Howard T Emery, QC, on the occasion of his 90th birthday, and the firm's 100th anniversary.
Apply: By nomination from the Faculty of Law.

The Francis Michael ("Ned") Feehan Memorial Award

Field: Law
Number: 1
Value: $400 - $500 depending upon annual interest accrued.
Conditions: To be offered annually to a student entering second or third year law who requires financial assistance and who best combines academic and athletic achievement.
Donor: Endowed by Mrs Teresa I Feehan, in memory of her late husband, FM (Ned) Feehan, QC.
Apply: By nomination from the Faculty of Law.

The Harry A Friedman Memorial Bursary

Value: $700
Conditions: To be offered, on the basis of academic standing and financial need, to a student entering second or third year Law.
Donor: Endowed by the late Mrs Frances Friedman, in memory of her late husband.
Apply: Director of Student Awards by June 3.

The Lloyd W Gardiner Memorial Prize in Trusts

Field: Law
Value: $400
Number: 1
Conditions: To be awarded annually to an undergraduate student for superior academic achievement on the subject of Trusts.
Donor: Edmonton Bar Association.
Apply: By nomination from the Faculty of Law.

The Harold Lawrence Hawe Bursary

Value: $4,000
Number: 1
Conditions: Awarded annually to a student entering first year of the Faculty of Law, on the basis of academic standing and financial need. The award will be renewable for a further two years subject to satisfactory academic standing in each year.
Donor: The Estate of the late Mrs Anne Muriel Sarah Hawe.
Apply: Selection will be made from first year entrants.

The Lou Hyndman Edmonton Glenora Scholarships

Field: Law, History, Political Science, Education, Business, Economics, Canadian Studies, or Women's Studies.
Value: $4,000 for each of the last two years of the degree program.
Number: 2 new awards per year.
Conditions: These scholarships are awarded on the basis of academic achievement and demonstrated community service. The first year of the award may be taken away from the University of Alberta to another university in Canada or elsewhere. Renewal of the award for the second year is contingent upon satisfactory academic standing on a full, normal course load during the first year of the award. For the 1991 competition only, students registered in the fourth year of Canadian Studies or Women's Studies with minors in Political Science or History will be eligible to apply.
Donor: Endowed by the Trustees of the Lou Hyndman Campaign Trust Fund on behalf of the Edmonton Glenora Progressive Conservative Association.
Apply: Director of Student Awards by October 15 on the University of Alberta Leadership Awards application form.

The Master LD Hyndman Scholarship

Field: Law
Value: $500
Number: 1
Conditions: To be awarded annually to the student in the Faculty of Law at the University of Alberta who obtains the highest mark in the Professional Responsibility Law course (LAW 670).
Donor: Field and Field, Barristers and Solicitors, Edmonton; in honor of Mr LD Hyndman, QC.
Apply: By nomination from the Faculty of Law.

The Raymond James Memorial Prize

Field: Equity
Value: $150
Conditions: Awarded to a student in the second or third year of Law for outstanding merit in the subject of Equity.
Donor: Endowed by the late Mrs EL Fitz-Simon, LLB (1926), in memory of her brother.
Apply: By nomination from Faculty/Department.

The Horace Johnson Memorial Scholarship

Field: Law
Value: $2,300 in 1990; $3,500 in 1991 and thereafter.
Number: 1
Conditions: Awarded to a student entering first year in the Faculty of Law on the basis of superior academic achievement.
Donor: Endowed by Mrs Louise Johnson in memory of her husband, the late Honorable, Mr Justice Horace Johnson.
Apply: By nomination from the Faculty of Law.

The Bruce Jones Memorial Scholarship

Field: Law
Number: 1
Value: $500
Conditions: Awarded annually to a student entering the first year in the Faculty of Law, on the basis of academic standing and financial need.
Donor: Endowed by friends of the family of Bruce Jones.
Apply: By nomination from Faculty/Department.

The Labour Relations Board Book Prize in Labor Law

Field: Labor Law
Value: $250
Number: 1
Conditions: Awarded annually to a student registered in the Faculty of law for outstanding academic merit in the field of labor law.
Where tenable: University of Alberta.
Donor: The Labour Relations Board.
Apply: By nomination from Faculty/Department.

Life Underwriters Association of Canada Educational Foundation Scholarship in Estate Planning

Field: Faculty of Law - Estate Planning
Value: $1,500
Number: 1
Conditions: Offered annually to a student entering third year in the Faculty of Law at the University of Alberta who has shown an interest and aptitude in the area of estate planning. The award will be based primarily on academic merit, but financial need may also be taken into consideration. The guidelines which the Faculty of Law Scholarship Committee will use in selecting will take into consideration a demonstrated ability in courses generally associated with estate planning, such as trust, wills, insurance, taxation and corporations.
Donor: Endowed by Life Underwriters Association of Canada Educational Foundation.
Apply: By nomination from the Faculty of Law.

Life Underwriters Association of Canada Educational Foundation Scholarship in Insurance

Field: Faculty of Law - Insurance
Value: $1,500
Number: 1
Conditions: Offered annually to a student entering third year in the Faculty of Law at the University of Alberta who has shown an interest and aptitude in the area of insurance. The award will be based primarily on academic merit, but financial need may also by taken into consideration. The guidelines which the Faculty of Law Scholarship Committee will use in selecting the recipient for this scholarship will take into consideration a demonstrated ability in the course of insurance.
Donor: Endowed by Life Underwriters Association of Canada Educational Foundation.
Apply: By nomination from the Faculty of Law.

The Macleod, Dixon Scholarship

Value: Tuition and fees
Conditions: Offered annually to a student of outstanding merit entering the third year of the Faculty of Law.
Donor: The law partners of Macleod, Dixon of Calgary.
Apply: By nomination from Faculty/Department.

The Dr Hazel Rutherford McCuaig Scholarship in Property Law Field: Property Law

Number: 1
Value: $400
Conditions: Awarded annually to a student completing first year law for high standing in the subject of Real Property.
Donor: The McLean McCuaig Foundation in honor of Doctor Hazel Elizabeth Rutherford McCuaig.
Apply: By nomination from the Faculty of Law.

The Stanley H McCuaig Scholarship

Field: Law
Value: $1,000
Number: 1
Conditions: To be awarded annually to a student entering third year in the Faculty of Law on the basis of superior academic achievement and participation in extracurricular activities.
Donor: McCuaig Desrochers, Barristers and Solicitors in memory of Stanley H McCuaig, QC.
Apply: By nomination from Faculty of Law.

The McLennan, Ross Entrance Bursary

Field: Law
Value: $1,000
Number: 1
Conditions: Awarded annually to a student entering the first year in the Faculty of Law on the basis of academic standing and financial need.
Donor: The partners of McLennan Ross, Barristers and Solicitors, in memory of the late WS (Stan) Ross, a senior partner in the firm.
Apply: By nomination from the Faculty of Law.

The Abe W Miller Memorial Prize in Criminal Law

Value: $200
Conditions: Awarded annually to a student completing first year Law for outstanding performance in the subject of Criminal Law.
Donor: The law partners of the late Abe W Miller, QC.
Apply: By nomination from Faculty/Department.

The Honorable Mr Justice Arnold F Moir Scholarship

Field: Law
Value: $800
Number: 1
Conditions: To be awarded annually to a student who has completed second year and is entering third year on the basis of outstanding academic achievement.
Donor: Endowed by Edythe M Moir, wife of Mr Justice Arnold F Moir, and by members of the judiciary who have taught over the years in the Faculty of Law.
Apply: By nomination from the Faculty of Law.

The Morrow Book Prize in Jurisprudence

Field: Jurisprudence
Value: $200 for books
Number: 1
Conditions: To be awarded annually to a student in Law for outstanding merit in the subject of Jurisprudence.
Donor: The Criminal Trial Lawyers Association of Alberta.
Apply: By nomination from Faculty/Department.

The William Morrow Essay Prizes

Field: Law
Value: Variable
Number: 3
Conditions: The Alberta Law Review annually holds an essay competition which is open to all undergraduate and graduate students enrolled in Faculties of Law at the University of Alberta and the University of Calgary, excluding members of the Editorial Board of the Alberta Law Review responsible for the judging. Articling students in Alberta and the Northwest Territories are also eligible to submit papers.

There are 3 prizes awarded annually. First and second prizes for essays valued at $350 and $250 respectively; and one award valued at $250 for Notes and Case Comments.

Donor: Endowed by the Hon Mr Justice William Stevenson in memory of the late Mr Justice William Morrow, a Justice of the Supreme Court of the NWT (1966-76) and of the Court of Appeal of Alberta (1976-80).
Apply: The Alberta Law Review, Law Centre, the University of Alberta by September 30.

The JDO Mothersill Memorial Bursary

Value: $850
Number: 2
Conditions: To be offered annually to a student completing first or second year in the Faculty of Law on the basis of academic standing, financial need and contribution to the Faculty through student activities. (Students applying for this award should detail such activities.)
Donor: Endowed by members of the family of the late Mr Mothersill, who as a student on this campus, was active in extracurricular activities.
Apply: Director of Student Awards by June 3.

The Ogilvie Prize

Field: Law
Value: $300
Number: 1
Conditions: To be awarded annually to a student in Law for outstanding merit in the subject of Civil Procedure.
Donor: The Law Firm of Ogilvie & Company in commemo-

ration of its founder, the late James H. Ogilvie, QC, of Edmonton.
Apply: By nomination from Faculty/Department.

The Parlee Scholarship

Field: Law
Value: $1,000
Number: 1
Conditions: To be awarded annually to a student entering the third year of the Faculty of Law. Selection will be on the basis of outstanding merit based on the student's performance in both the first and second year of Law.
Donor: The partners of Parlee in recognition of the achievement of the Parlee family, most notably Mr WO Parlee, QC, and the late Mr Justice HH Parlee.
Apply: By nomination from the Faculty of Law.

The President's Scholarships

Field: Arts, Science and Law
Value: $1,500 each
Number: 3, one in each of above faculties
Conditions: To be offered on the basis of high academic standing and financial need.
Donor: Endowed in 1943 by the late Mr Justice HH Parlee.
Apply: Director of Student Awards by June 3.

The Juris Radze Memorial Scholarship

Field: Criminal Law
Value: $400
Number: 1
Conditions: To be awarded annually to a second or third year student for outstanding academic achievement in an advanced criminal law course.
Donor: Endowed by friends of the late Juris Radze.
Apply: By nomination from Faculty/Department.

The Rogers Bereskin & Parr Prize in Entertainment Law

Field: Law
Value: $200
Number: 1
Conditions: To be awarded annually to the student exhibiting exceptional academic ability in the area of Entertainment Law.
Donor: Rogers, Bereskin and Parr, Barristers and Solicitors, of Toronto.
Apply: By nomination from Faculty/Department.

The Betty Anne Segatto Memorial Prize in Real Estate

Field: Law
Number: 1
Value: $400
Conditions: Offered annually for outstanding academic merit in the subject of Real Estate Transactions.
Donor: Donated by the Alberta Law Review and Mr Joseph Segatto in memory of Betty Anne Segatto.
Apply: By nomination from Faculty/Department.

The Edward Shoctor Bursary in Law

Value: $850
Conditions: To be offered annually on the basis of academic standing and financial need to a student entering first year of the Faculty of Law.
Donor: Endowed by the late Edward Shoctor of Edmonton.
Apply: Director of Student Awards by June 3.

The Shumiatcher Memorial Award in Advocacy

Value: $100
Number: 1
Conditions: Awarded annually to a student who shows the most outstanding ability in the field of Advocacy.
Donor: Shumiatcher and Associates, Barristers and Solicitors, Regina, Saskatchewan
Apply: By nomination from Faculty/Department.

The Chief Justice S Bruce Smith Prize

Field: Law
Number: 1
Value: $400
Conditions: Awarded annually to a student entering second year Law, who has achieved the highest standing in the first year.
Donor: Endowed by the late Honorable S Bruce Smith, former Chief Justice of Alberta.
Apply: By nomination from the Faculty of Law.

The Dr Alexander Smith, QC Prize in the Subject of Contract

Value: $300
Number: 1
Conditions: To be awarded annually to a student successfully completing first year Law with outstanding merit in the subject of Contract.
Donor: Endowed by Dr Alexander Smith, QC, Professor Emeritus of Law, of Victoria.
Apply: By nomination from Faculty/Department.

The Honorable GA Cameron Steer Scholarship

Field: Law
Value: $800
Number: 1
Conditions: To be awarded annually to a student who has completed first year and is entering second year on the basis of outstanding academic achievement.
Donor: Endowed by members of the Judiciary who have taught over the years in the Faculty of Law.
Apply: By nomination from the Faculty of Law.

The Honorable George H Steer Scholarship

Field: Law
Number: 1
Value: $1,500
Conditions: To be awarded annually to a student who has completed second year Law and is entering third year Law on the basis of superior academic achievement.
Donor: Endowed by the estate of the Honorable George H Steer.
Apply: By nomination from the Faculty of Law

The John A Weir Memorial Scholarship

Field: Law
Value: $1,000
Number: 2
Conditions: Offered annually to a student who is accepted into the Faculty of Law at the University of Alberta. In addition to a satisfactory academic record, the applicant should have exhibited strong evidence of leadership, and an involvement in community or religious activities or athletic endeavours or debating or fine arts. A written essay on the life and works of John A Weir will be required with each application.
Donor: Endowed by former students of the late John A Weir, former Dean of the Faculty of Law.
Apply: Applications for the award will be included in the mail-out of Law admission applications.

The Sydney B Woods Memorial Prize in Constitutional Law

Value: $200
Conditions: Awarded annually for outstanding merit in the subjects of constitutional law.
Donor: Field and Field Barristers and Solicitors in honor of one of the founders of the firm, the late Mr Sydney B Woods.
Apply: By nomination from Faculty/Department.

The Thomas Janakas and Peter Yanakas Memorial Prize in Criminal Law

Value: $150
Number: 1
Conditions: To be awarded annually to the student achieving the highest mark in Law 420, Criminal Law and Procedure.
Donor: Mrs Audrey Janakas and the late Mr Peter Yanakas.
Apply: By nomination from Faculty/Department.

223.10.2 Awards From Other Sources

The Law Foundation of Newfoundland

Field: Law
Value: $5,000
Number: 3
Conditions: A candidate must:
(1) be a Newfoundland resident;
(2) have achieved academic excellence; and,
(3) not be the recipient of any other major scholarship.
Donor: The Law Foundation of Newfoundland in honor of the 150th Anniversary of the Law Society of Newfoundland (incorporated 1934)
Where tenable: First year studies at a Canadian Law School recognized by the Scholarship board.
Apply: Contact the Law Foundation of Newfoundland, P.O. Box 5907, St John's, Newfoundland A1C 5X4 for application form. Application forms must be received no later than May 1.

223.11 Faculty of Medicine

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.11.1 General Undergraduate Awards

Note: Medals and awards to graduating students are listed first. All other awards are listed alphabetically.

The Moshier Memorial Gold Medal

Value: 24 kt Gold Medal
Conditions: Awarded to a graduating student for outstanding merit in all studies in the Faculty of Medicine, provided that an average of 7.0 or better is attained.
Donor: Endowed by the Volunteer Overseas Medical Officers' Association of Edmonton in memory of the late Lt-Col HH Moshier, MB.
Apply: By nomination from Faculty/Department.

The John W Scott Honor Award

Value: Medal and a cash prize of $1,000.
Conditions: Offered to a student completing the final year of the MD program who, over the four years of the program, has shown himself or herself to possess to an outstanding degree those qualities of scholarship, leadership, and character which may be expected to lead to a distinguished position in the medical profession. The recipient will be selected by a committee on which faculty, students and alumni will be represented. The award may be made to more than one student in any one year and may be withheld in the event that no sufficient deserving candidate is available.
Donor: Medical Alumni Association of The University of Alberta.
Apply: By nomination from Faculty/Department.

The Rajcoomarie Singh Memorial Achievement Award

Field: Medicine
Value: $200
Number: 1
Conditions: Awarded each year to the graduating student who has improved most in class standing from first year of medical studies to graduation.
Donor: Awarded jointly by the Faculty of Medicine, the Medical Students' Association and the Class of 1985.
Apply: By nomination by the Dean, Faculty of Medicine.

The Upjohn Achievement Award

Field: Medicine
Value: $500. and an engraved plaque
Number: 1
Conditions: To be awarded annually to the graduating student showing the best performance in the clinical rotation component of Phase III.
Donor: The Upjohn Company of Canada.
Apply: By nomination from Faculty/Department.

The Dr Peter Aylen Memorial Prize in Family Practice

Field: Family Practice - Medicine
Value: $1,500
Number: 1
Conditions: To be awarded annually on the basis of superior academic achievement to a student entering the Faculty of Medicine whose interest lies in Family Practice. The recipient must be a graduate of a high school in either Fort Saskatchewan or Edmonton.
Donor: Endowed by the family and friends of the late Dr Peter Aylen, a physician in the NWMP and RCMP who served for several years in Fort Saskatchewan. Upon leaving the force, Dr Aylen continued to reside in the area where he practiced medicine, owned the town's first pharmacy, and was mayor of Fort Saskatchewan from 1909 to 1911.
Apply: By nomination from the Faculty of Medicine.

The Board of Governors Prizes in Medicine

Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first and second years of the Faculty. If two or more students are equal for first place, each will receive a full award.
Donor: The Escheated Estates Fund of The University of Alberta.
Apply: By nomination from Faculty/Department.

The Bristol Laboratories Book Prize

Value: $200 for books
Conditions: To be awarded to a student completing second year in the Faculty of Medicine, based on academic standing and financial need. (It is suggested that books purchased should be in the fields of therapy and pharmacology.)
Donor: Bristol Laboratories of Canada Limited.
Apply: By nomination from Faculty/Department.

The Ciba-Geigy Summer Research Scholarship

Value: $2,500
Number: 1
Conditions: To be awarded annually to a student in the Faculty of Medicine for support of a summer research project.
Donor: Ciba-Geigy Canada Ltd.
Apply: Dean of Medicine by April 1.

The Nat Christie Foundation Scholarships

Field: Medicine
Value: $1,500
Number: 25
Conditions: To be awarded annually to ten students completing the first year of the medical program and to

fifteen students completing second year. The awards will be made on a basis of academic achievement but financial need will be taken into consideration.
Donor: The Nat Christie Foundation.
Apply: Student Affairs Office, Faculty of Medicine, 2J2.11 Walter C MacKenzie Health Sciences Centre, by April 1.

The College of Physicians and Surgeons of Alberta Bursaries .

Value: $500
Number: 5
Conditions: To be offered to students on the basis of academic standing and financial need, completing the first or second year in the Faculty of Medicine.
Apply: Director of Student Awards by June 3.

The Henry Anton Deutsch Medical Summer Research Award

Value: $4,800
Conditions: To be awarded annually on the basis of academic merit to a medical student to support a summer research project or for work towards an MSc or PhD degree.
Donor: The Estate of Henry Anton Deutsch.
Apply: The Dean of Medicine by April 1.

The Dorch Brothers Scholarships

Field: Medicine, Chemistry, or Chemical Engineering
Value: $750 (Renewable for 2 years upon proof of satisfactory academic standing)
Number: 2
Conditions: Open to students whose homes are in the county of Vulcan and who have completed either the first year of Medicine or the second year of a BSc Program in Chemistry or Chemical Engineering. Selection will be on the basis of superior academic achievement and financial need.
Donor: Endowed by the late Peter Nelson Anderson as a memorial to his deceased brothers, John Frederick Marius Dorch, and Henry Sylvester Dorch.
Apply: Director of Student Awards by June 3.

The Francis Norman Fallis Memorial Award in Medicine

Field: Medicine
Value: $500
Number: 1
Conditions: Awarded to the female student with the highest satisfactory academic standing in the graduating class of the Faculty of Medicine.
Donor: Endowed by Dr Norma E Harris in memory of her father Mr Francis Fallis.
Apply: By nomination from the Faculty of Medicine.

The Mary Fong Bursary

Value: $600 each
Number: 2
Conditions: To be awarded to students, on the basis of academic standing and financial need, completing either first, second or third year in the Faculty of Medicine.
Donor: Endowed by Dr Amy Fong Wong, in memory of her mother, Mrs Mary Fong.
Apply: Director of Student Awards by June 3.

The Charles E Frosst Medical Bursary

Value: $500
Conditions: To be offered to a student completing first or second year in the Faculty of Medicine and to be awarded on the basis of academic standing and financial need.
Donor: Charles E. Frosst and Co, Montreal.
Apply: Director of Student Awards by June 3.

The Vessie Heckbert Memorial Summer Research Award

Field: Cancer research
Value: $4,800
Conditions: Offered annually to a student in the Faculty of Medicine for support of a summer research project.
Donor: Endowed by the late S Carl Heckbert of Vermilion, Alberta
Apply: The Dean of Medicine by April 1.

Dr Michael C Koilpillai Prize in Neuro-Psychiatry

Field: Psychiatry, Neurology or Neuro-Psychiatry
Value: $500 plus plaque
Number: 1
Conditions: To be awarded annually to a graduating student in the MD program at the University of Alberta on the basis of outstanding merit during the psychiatry rotation in Phase III, overall superior academic excellence and a particular interest, aptitude, and potential for further study in the field of Neuro-Psychiatry, Psychiatry, or Neurology.
Donor: Endowed by the family, friends and colleagues of the late Dr Michael Chakravarthy Koilpillai to cherish his memory and to honor his devotion and commitment to the medical profession. Dr Michael Koilpillai was a graduate of the University of Alberta and was a young practising psychiatrist and resident in Neurology at the University of Alberta Hospital at the time of his sudden and premature death.
Apply: By nomination from the Department of Psychiatry.

The Merck Sharp and Dohme Scholarship in Therapeutics

Field: Therapeutics
Value: $500 plus a copy of the current edition of the Merck Manual
Number: 1
Conditions: To be awarded annually to a third or fourth year student who in the opinion of the Faculty Awards Committee has shown outstanding performance, ability or interest in the general field of Therapeutics.
Donor: Merck Sharp and Dohme Canada Ltd.
Apply: By nomination from Faculty/Department.

The Kenneth William Moodie Bursary

Value: $800
Conditions: Offered annually to a student entering the first year of the Faculty of Medicine on the basis of academic attainment in the previous year's work and financial need.
Donor: Endowed by the late Miss Marion E Moodie in memory of her nephew, Flying Officer KW Moodie, a graduate of this University who lost his life in 1942, while on operations.
Apply: Selection will be made from first year entrants.

The Dr AJ Pauly Bursaries in Medicine

Value: $600 each
Number: Variable
Conditions: To be awarded to students who will be entering the Faculty of Medicine, on the basis of academic standing and financial need.
Donor: Endowed by the late Dr Pauly (through the National Trust Co, Montreal).
Apply: Selection will be made from first year entrants.

The Dr Allan Coates Rankin Award

Value: $550
Conditions: Awarded annually to the most deserving and outstanding student completing any year of the Faculty of Medicine, on the basis of academic standing and financial need.
Donor: Endowed by the late Dean Rankin.
Apply: By nomination from Faculty/Department.

The David and Beatrice Reidford Research Scholarship

Field: New methods in the provision of health care.
Value: $4,800
Number: 2
Conditions: Offered annually to a student in the Faculty of Medicine, for support of a summer research project.
Donor: Endowed by the Estate of the late David Reidford.
Apply: The Dean of Medicine, by April 1.

The Summer Research Fellowship of the College of Physicians and Surgeons of Alberta

Value: $1,200 each
Number: 2
Conditions: Awarded annually to students in the Faculty of Medicine for support of summer research.
Apply: The Dean of Medicine by April 1.

The Edna Wakefield Rowe Memorial Summer Research Award

Value: $1,800
Conditions: Available to a medical student to support a summer research project, with preference given to cancer research.
Donor: The estate of the late Mildred R. Weston.
Apply: Dean of Medicine by April 1.

The Shragge Memorial Bursaries in Medicine

Field: Medicine
Value: $500
Number: 2
Conditions: To be awarded annually to third or fourth year Medical students who plan to do an elective period in a rural hospital or practise setting. The award is intended to defray part of the expenses invovled in such an elective.
Donor: The family of the late Dr and Mrs Pennie Shragge of Edmonton.
Apply: Dean of Medicine by November 1.

The Darcy Tailfeathers Memorial Award

Field: Medicine
Value: To be determined
Number: 1
Conditions: To be offered to a student of Native ancestry within the meaning of the Constitution Act of 1982, Section 35, Part 2, who has shown commitment to pursuing a career in medicine preferably by completing at least one year of the MD program with satisfactory academic standing. Special consideration will be given to the student's background in the Native community with an emphasis on leadership qualities and athletic ability.
Donor: Endowed by the Faculty of Medicine and the family and friends of Darcy Tailfeathers, a young medical student from the Blood Indian Band who was tragically killed in an automobile accident in the third year of his studies. He would have been the first Native Canadian graduate from the Faculty of Medicine.
Apply: By nomination from the Faculty of Medicine.

The Dorothy Jean Usher Memorial Summer Research Award

Value: $2,000
Conditions: Available to a student in the Faculty of Medicine for support of a summer research project in medicine, with preference to the study of leukaemia.
Donor: Endowed by Mr and Mrs Thos Usher of Scollard, Alberta.
Apply: Dean of Medicine by April 1.

The Dr Harry Weinlos Prize in Medicine

Value: $300
Number: 1
Conditions: To be awarded annually to the student enrolled in the Faculty of Medicine program who best exemplifies the Humanitarian ideal in the practice of Medicine combined with the overall record of academic excellence.
Donor: Endowed by Mrs Morris Weinlos and daughters in memory of the late Dr Harry Weinlos of Edmonton.
Apply: By nomination from Faculty/Department.

The Amy and Yuen Wong Scholarship in Medicine

Field: Medicine
Value: Variable
Number: 1
Conditions: To be awarded annually to an undergraduate student who is a Canadian Citizen with superior academic standing and financial need.
Donor: Endowed by Amy and Yuen Wong.
Apply: To the Office of Student Awards by June 3.

The Dr JW Young Memorial Bursary

Value: $1,000
Conditions: To be offered to a student entering first year Medicine, on the basis of academic achievement.
Donor: Endowed through the will of the late Mrs Young in memory of her husband.
Apply: Selection will be made from first year entrants.

Anatomy and Cell Biology

The Dr Anthony Ronald Oakley Prize in Anatomy

Field: Medicine - Anatomy
Value: Approx. $200. (depending on interest generated) and a textbook
Number: 1
Conditions: Awarded annually on the basis of superior academic achievement at the completion of the first year in Anatomy and Cell Biology.
Donor: Endowed by friends and family of the late Dr Anthony Ronald Oakley
Apply: Nominated by the Department of Anatomy and Cell Biology.

The Dr RF Shaner Prize in Anatomy

Value: $500
Conditions: To be awarded annually to a student completing Phase I of the MD program for outstanding merit in Cell Biology/Histology and Gross Anatomy.
Donor: Endowed by the Medical Alumni Association.
Apply: By nomination from Faculty/Department.

Biochemistry

The Hugh and Mabel McAfee Memorial Scholarship

Value: $350
Conditions: Offered annually to a student or students of outstanding merit in Biochemistry in the first year of Medicine, provided the student's record is otherwise satisfactory. The award may be divided at the discretion of the Faculty.
Donor: Endowed by Mrs LB Pett, of Ottawa, in memory of her parents.
Apply: By nomination from Faculty/Department.

Community Medicine

The College of Family Physicians Scholarship - Alberta Chapter

Value: $300
Conditions: To be awarded to a student completing fourth year Faculty of Medicine for outstanding merit in the study of Family Medicine.
Donor: College of Family Physicians (Alberta Chapter).
Apply: By nomination from Faculty/Department.

The Dr ME Ledingham Memorial Summer Research Award

Value: $4,800

Conditions: Available to a medical student to support a summer research project, with preference to work in the field of Continuing Medical Education.
Donor: Endowed by the late Dr ME Ledingham of Calgary.
Apply: Dean of Medicine by April 1.

Immunology

The Fisons Corporation Limited Scholarship in Immunology

Field: Immunology.
Value: $500 and a bronze engraved medallion
Number: 1
Conditions: To be awarded annually to a student showing merit in the study of Immunology at the end of the first year of the Medical program.
Donor: Fisons Corporation Limited.
Apply: By nomination from the Faculty of Medicine.

Medical Microbiology & Infectious Diseases

The Allan Coates Rankin Prize in Medical Microbiology & Infectious Diseases

Value: $250
Conditions: Awarded to a medical student for outstanding merit in Medical Microbiology & Infectious Diseases, provided that at least a grade of 7 is obtained in this course, and that all of the subjects of that year are taken and passed.
Donor: Rankin Medical Journal Reporting Club.
Apply: By nomination from Faculty/Department.

Medicine

The EL Pope Memorial Award in Medicine

Value: $250 and a scroll
Conditions: Offered annually to a graduating student for outstanding merit in Medicine, provided that the average in the courses in Medicine is 7.0 or more.
Donor: Edmonton Academy of Medicine.
Apply: By nomination from Faculty/Department.

The Adele M MacInnis Memorial Summer Research Scholarships

Field: Geriatric Medicine
Value: $2,000-$3,000 (Amount will vary depending upon income received from endowment.)
Number: Variable up to 3
Conditions: Offered annually to students of high academic standing in the Faculty of Medicine to support a four month summer research project in some aspect of Geriatric Medicine.
Donor: Endowed by Mr Frank T MacInnis, Spie Batignolles Inc., Irving Texas.
Apply: The Dean of Medicine by April 1st.

The Adella Patrige Memorial Award in Cardiology

Field: Cardiology
Value: $350
Number: 1
Conditions: Awarded annually to a second-year student for outstanding merit in the field of Cardiology, providing that the student's record is otherwise satisfactory. Preference will be given to a student from the Camrose area or a graduate of the Camrose Lutheran College.
Donor: Endowed by the family and friends of the late Mrs Adella Patrige of Camrose.
Apply: By nomination from the Faculty of Medicine.

The Percy H. Sprague Prize in Medicine

Field: Internal Medicine
Value: $200
Conditions: Offered annually to a student completing third or fourth year, for outstanding merit in Internal Medicine.
Donor: Alberta Society of Specialists in Internal Medicine.
Apply: By nomination from Faculty/Department.

Neurology

Dr Michael C Koilpillai Prize in Neuro-Psychiatry

Field: Psychiatry, Neurology or Neuro-Psychiatry
Value: $500 plus plaque
Number: 1
Conditions: To be awarded annually to a graduating student in the MD program at the University of Alberta on the basis of outstanding merit during the psychiatry rotation in Phase III, overall superior academic excellence and a particular interest, aptitude, and potential for further study in the field of Neuro-Psychiatry, Psychiatry, or Neurology.
Donor: Endowed by the family, friends and colleagues of the late Dr Michael Chakravarthy Koilpillai to cherish his memory and to honor his devotion and commitment to the medical profession. Dr Michael Koilpillai was a graduate of the University of Alberta and was a young practising psychiatrist and resident in Neurology at the University of Alberta Hospital at the time of his sudden and premature death.
Apply: By nomination from the Department of Psychiatry.

The Gilbert H Krause Memorial Prize in Neurology

Field: Neurology
Number: 1
Value: $250
Conditions: To be awarded annually to a student who demonstrates superior academic achievement in NEURO 421 and an interest in research in the cause and treatment of Parkinson's Disease.
Donor: The Parkinson's Society of Alberta in memory of the late Gilbert H. Krause.
Apply: By nomination by the Division of Neurology

Obstetrics and Gynaecology

The Conn Memorial Medal in Obstetrics and Gynaecology

Conditions: Offered annually to a graduating student for outstanding merit in Obstetrics and Gynaecology, provided that the grade point average of the student in the courses in these subjects is 7.0 or better.
Donor: Endowed by Mr Geoffrey H Wood.
Apply: By nomination from Faculty/Department.

The J Ross Vant Scholarship in Obstetrics

Field: Medicine
Value: $500
Number: 1
Conditions: To be awarded annually to the graduating student with the highest academic standing and best all round performance in Obstetrics and Gynaecology.
Donor: Endowed by the Medical Alumni Association.
Apply: By nomination from the Faculty of Medicine.

Ophthalmology

The Rose Bogoch Prize in Ophthalmology

Field: Ophthalmology
Value: $200
Number: 1
Conditions: Awarded annually to a second-year student for outstanding merit in the field of Ophthalmology, providing that the student's record is otherwise satisfactory.
Donor: Endowed by the late Mrs Rose Bogoch of Edmonton.
Apply: By nomination from the Faculty/Department.

The Dr Ernest A Johnson Prize in Ophthalmology

Field: Ophthalmology
Number: Variable
Value: $400
Conditions: Awarded annually to a second-year student for outstanding merit in the field of Ophthalmology, providing that the student's record is otherwise satisfactory.
Donor: Endowed by Dr Ernest A Johnson of Calgary.
Apply: By nomination from the Faculty of Medicine.

Paediatrics

The Douglas Leitch Medal in Paediatrics

Conditions: Awarded annually to a graduating student in the Faculty of Medicine for outstanding merit in Paediatrics.
Donor: Endowed by the Alberta Paediatric Society.
Apply: By nomination from Faculty/Department.

Pathology

The John James Ower Medal and Scholarship in Pathology

Value: A medal and $500
Conditions: Awarded annually to a graduating student for outstanding merit in Pathology. If there is no suitable candidate no award will be made.
Donor: Endowed by the Medical Alumni and friends and colleagues of the late Dr Ower, through the Alumni Association.
Apply: By nomination from Faculty/Department.

The Dr M Viola Rae Prize in Pathology

Value: $100
Conditions: To be awarded to a student in the Faculty of Medicine for outstanding merit in the course in General Pathology.
Donor: Endowed by Dr M Viola Rae of White Rock, BC.
Apply: By nomination from Faculty/Department.

The Isaac and Leah Weinlos Prize in Pathology

Value: $200
Conditions: Awarded annually to a student for outstanding merit in the course in General Pathology.
Donor: Endowed by the late Dr Weinlos and Mrs Morris Weinlos and daughters.
Apply: By nomination from Faculty/Department.

The Dr Morris Weinlos Scholarship in Pathology and Surgery

Value: $600
Number: 1
Conditions: To be awarded annually to a student in either the third or fourth year of the Medical program for outstanding achievement in Pathology and Surgery, provided that the student's record is otherwise satisfactory.
Donor: Endowed by Mrs Morris Weinlos and daughters in memory of the late Dr Morris Weinlos of Edmonton.
Apply: By nomination from Faculty/Department.

Physiology

The AW Downs Prize in Physiology

Value: $200 cash to be used towards the purchase of a medical instrument to be selected by the Department.
Conditions: Awarded annually to the medical student who obtains the highest marks in the course in Physiology in the first year provided that a grade of 7 or better is obtained and that all subjects are passed.
Donor: Endowed by Dr WJ Downs and the Medical Alumni Association.
Apply: By nomination from Faculty/Department.

Psychiatry

Dr Michael C Koilpillai Prize in Neuro-Psychiatry

Field: Psychiatry, Neurology or Neuro-Psychiatry
Value: $500 plus plaque
Number: 1
Conditions: To be awarded annually to a graduating student in the MD program at the University of Alberta on the basis of outstanding merit during the psychiatry rotation in Phase III, overall superior academic excellence and a particular interest, aptitude, and potential for further study in the field of Neuro-Psychiatry, Psychiatry, or Neurology.
Donor: Endowed by the family, friends and colleagues of the late Dr Michael Chakravarthy Koilpillai to cherish his memory and to honor his devotion and commitment to the medical profession. Dr Michael Koilpillai was a graduate of the University of Alberta and was a young practising psychiatrist and resident in Neurology at the University of Alberta Hospital at the time of his sudden and premature death.
Apply: By nomination from the Department of Psychiatry.

The Dr SS Spaner Prize in Psychiatry

Value: $200
Conditions: Awarded annually to a graduating year student for outstanding merit in Psychiatry provided his or her record is otherwise satisfactory.
Donor: Endowed by Mr FJ Cameron of Calgary.
Apply: By nomination from Faculty/Department.

The Dr Sidney Spaner Memorial Award

Field: Psychiatry
Value: $600
Number: 1
Conditions: Offered annually to a second-year psychiatric resident on the basis of general psychiatric aptitude and promise in psychotherapeutic skills.
Donor: Endowed by Mrs Sylvia Spaner and friends of the late Dr Sidney Spaner.
Apply: By nomination from the Department of Psychiatry.

Surgery

AE Bowie Scholarship in Medicine

Value: $600
Number: 1
Conditions: To be awarded annually on the basis of academic attainment to a graduating student showing particular interest in diseases of the ear or intending to specialize in that field.
Donor: Miss Iva Smith of Edmonton.
Apply: By nomination from Faculty/Department.

The Dr HH Hepburn Memorial Prize in Surgery

Value: $850
Conditions: To be awarded annually to a student graduating from the Faculty of Medicine. The selection for the award is to be based on academic standing, demonstrated clinical competence in surgery and surgical subspecialties, participation in extracurricular activities and on those personal qualities which would contribute to an outstanding professional career.
Donor: Endowed by Dr Allan L Hepburn of Calgary in memory of his late father.
Apply: Selection will be made by the Faculty.

The EW Kuder Memorial Scholarship in Surgery

Field: Surgery
Value: $500
Number: 1
Conditions: To be awarded annually to a student with the highest mark in his/her surgical rotation.
Donor: Endowed by the late Mr EW Kuder.
Apply: By nomination from the Department of Surgery.

The Mewburn Memorial Medal in Surgery

Conditions: Offered annually to a graduating student for outstanding merit in Surgery, provided that the grade point average in such courses is 7.0 or better.
Donor: The Department of Surgery.
Apply: By nomination from Faculty/Department.

The Surgical Research Prize

Value: $50
Conditions: Awarded to a third or fourth year student for the best manuscript submitted on an original Surgical Research topic. For details regarding the manuscript, applicants may contact the members of the Department of Surgery.
Apply: Manuscripts must be submitted to the Dean of Medicine by March 31. They should be typed, double spaced, not exceeding 25 pages and accompanied by any references or bibliography.

The Isaac and Leah Weinlos Scholarship in Surgery

Value: $650
Conditions: Awarded annually to a student for outstanding achievement in third and fourth year Surgery provided that the student's record is otherwise satisfactory.
Donor: Endowed by the late Dr Weinlos and Mrs Morris Weinlos and daughters.
Apply: By nomination from Faculty/Department.

Medical Laboratory Science

Note: Awards to graduating students are listed first. All other awards are listed alphabetically.

The B Motyl Prize

Value: $250
Number: 1
Conditions: Awarded annually to a graduating student on the basis of academic standing, general proficiency and extra-curricular activities.
Donor: Endowed by MLS alumni and friends of Mrs Motyl.
Apply: By nomination from Faculty/Department.

The University of Alberta Hospital Laboratory Medicine Staff Award

Field: Medical Laboratory Science
Value: $225
Number: 1
Conditions: To be awarded annually to the student graduating with the highest distinction from the BSc program in Medical Laboratory Science.
Donor: Endowed by the University of Alberta Hospital Laboratory Medicine Staff.
Apply: By nomination from Faculty/Department.

The Alberta Society of Medical Laboratory Technologists Award

Field: Medical Laboratory Science
Number: 1
Value: $200
Conditions: Annually awarded to a student in the second year of the program on the basis of satisfactory academic standing and leadership and cooperation qualities.
Donor: Endowed by the Alberta Society of Medical Laboratory Technologists
Apply: By selection by the MLS class and nomination by the Department.

The Alberta Society of Laboratory Physicians Prize in MLS

Value: $300
Conditions: Offered annually to a student of outstanding merit completing the second year of the Medical Laboratory Science program.
Apply: By nomination from Faculty/Department.

The Board of Governors Prizes in Medical Laboratory Science

Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first, second and third years of the Program. If two or more students are equal for first place, each will receive a full award.
Donor: The Escheated Estates Fund of The University of Alberta.
Apply: By nomination from Faculty/Department.

The Harper & Row Book Award in Clinical Chemistry

Field: Medical Laboratory Science (Clinical Chemistry)
Value: $50 in books
Number: 1
Conditions: Student's choice from the list of publications of the donor; offered annually to the student with the highest standing in Clinical Chemistry in the third year of the Medical Laboratory Science program, provided that the student's record is otherwise satisfactory.
Donor: Harper & Row, Publishers, Inc. Hagerstown, Maryland. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Harper & Row Book Award in Microbiology

Field: Medical Laboratory Science (Microbiology)
Value: $50 in books
Number: 1
Conditions: Student's choice from the list of publications of the donor; offered annually to the student with the highest standing in Microbiology in the third year of the Medical Laboratory Science program, provided that the student's record is otherwise satisfactory.
Donor: Harper & Row, Publishers, Inc. Hagerstown, Maryland. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Peter Lougheed Scholarship in Health Sciences

Field: Health Sciences (bachelor's degree programs)
Value: $5,000 (This award will be renewable for a second year, subject to continued satisfactory academic achievement.)
Number: 1
Conditions: One scholarship is to be awarded each year on the basis of superior academic achievement and community leadership, to a student entering the final two years of one of the following faculties/programs: Nursing (basic BScN students), Rehabilitation Medicine, Pharmacy and Pharmaceutical Sciences, Medicine (BSc in Medical Laboratory Science).
Donor: University Endowment Funds.
Apply: To Director of Student Awards by October 15 on the University of Alberta Leadership Awards application form.

The Ortho Diagnostics Prize

Value: A certificate and $50
Conditions: Awarded to the student with the highest standing in Hematology and Immunohematology in the third year of the Medical Laboratory Science program, provided that the student's record is otherwise satisfactory.
Donor: Ortho Diagnostics, Don Mills, Ontario. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The WB Saunders Book Award

Field: Medical Laboratory Science
Value: $50 for books
Number: 1
Conditions: Student's choice from the list of publications of the donor; offered annually to the student with the highest average in the three MLS courses in the second year.
Donor: WB Saunders Company Canada Limited, Toronto, Ontario. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Miles Book Prize in Medical Laboratory Science

Field: Medical Laboratory Science
Value: $200 for books
Number: 1
Conditions: To be awarded annually to a student of outstanding merit completing the third year of the Medical Laboratory Science program.
Donor: The Ames Educational Institute, Miles Canada Inc Diagnostic Division.
Apply: By nomination from Faculty/Department.

The University Hospital Medical Staff Prize

Value: $100
Conditions: Offered annually to the student completing the third year of the Medical Laboratory Science program, who has attained the highest proficiency during the hospital year. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

223.11.2 Awards From Other Sources

The Dr Walter C MacKenzie Award

Value: $100
Conditions: Awarded annually to the graduating student who is judged to be most proficient in clinical skills, based on the Department of Medicine's end-year clinical skills exam.
Donor: The Medical Students' Association.
Apply: By nomination from Faculty/Department.

The Dr RF Shaner Memorial Medal

Conditions: Awarded annually to a graduating student on the basis of contribution to the Medical Students' Association throughout all four years of medicine, without reference to academic standing.
Donor: The Medical Students' Association.
Apply: By nomination from Faculty/Department.

The Edwin Isaac Clarke Scholarship Fund

Field: Ophthalmology or cancer research.
Value: $3,600 per year
Conditions: The above sum to be available annually to the Department of Ophthalmology and the McEachern Cancer Research Laboratory. The money may be used: (a) to provide three students in these fields of study with summer research awards in the amount of $1,200 each, or (b) to provide support for students or other personnel or for the provision of materials or equipment used by such, at the discretion of the Chair of the Department, or the Director of the Laboratory.
Donor: Endowed by the will of the late Mrs Jean E Clarke in memory of Mr El Clarke.
Apply: Dean of Medicine by March 1.

The CV Mosby Book Awards

Value: $50 in books each
Number: 3
Conditions: Awarded annually to three students of outstanding merit in the Faculty of Medicine.
Donor: CV Mosby Company.
Apply: By nomination from Faculty/Department.

Dr Joseph Dvorkin Memorial Fund Travel Award

Value: Equivalent to the cost of travel, registration and living expenses incurred in attending a meeting or course in Cardiology in Canada.
Number: 1 (Undergraduate)
Conditions: Awarded annually on results of student's academic performance in courses in cardiology in Phase II. The meeting/course may be attended at any time in Phase III.
Donor: Dr Joseph Dvorkin Memorial Fund of the University of Alberta Hospital.
Apply: By nomination from Faculty/Department.

223.12 School of Native Studies

The Adrian Hope Prizes in Cree Language and Culture

Field: Native Studies
Number: 2
Value: $500
Conditions: One award granted annually to the student with outstanding academic achievement in Advanced Cree, and one to the student with outstanding academic achievement in Native Issues and Insights.
Donor: Endowed by Helen Tkachenko of Edmonton.
Apply: By nomination from the School.

The Johnny Samson Prize in Native Studies

Field: Native Studies
Number: 1
Value: $600
Conditions: Offered annually to a student entering second, third, or fourth year with superior academic achievement in two or more Native Studies courses. Financial need and extra-curricular involvement will also be considered.
Donor: Endowed by the family of the late J. Edgar and Helen Duncan.
Apply: By nomination from the School of Native Studies.

The Tkachenko Prize in Native Studies

Field: Cree Language
Value: $250
Number: 2
Conditions: One or more awards granted annually to the student(s) achieving the highest academic standing in Introductory Cree 101, and one or more awards granted annually to the student(s) achieving the highest academic standing in Intermediate Cree 201.
Donor: Endowed by Helen Tkachenko.
Apply: Nominations for this award will be made by the School of Native Studies.

223.13 Faculty of Nursing

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.13.1 Undergraduate Awards

Note: Medals and awards to graduating students are listed first. All other awards are listed alphabetically.

The McClure Medal in Nursing

Conditions: Awarded annually to the student graduating from the Basic Program for the Bachelor of Science degree in Nursing who has shown outstanding scholarship in Nursing, with an overall GPA of at least 7.0 and outstanding clinical practice throughout the nursing

program. Consideration may be given to participation in student activities.
Donor: Endowed by friends of Miss RE McClure.
Apply: By nomination from Faculty/Department.

The Alberta Association of Registered Nurses, Edmonton Chapter #7, Book Prize

Value: $50 book certificate
Conditions: To be awarded to the student graduating with outstanding merit from the degree program for Registered Nurses.
Donor: Alberta Association of Registered Nurses Edmonton Chapter #7.
Apply: Mrs Jean Gibson, 9907-145 Street, Edmonton, Alberta, T5N 2X2.

A.E. Bowie Scholarship in Nursing

Value: $600
Number: 1
Conditions: Offered to a student, completing the final year of the Post-RN Bachelor of Science in Nursing program who, over the two years of the program has been shown to possess qualities of scholarship and leadership which may contribute to the advancement of the profession of nursing. The recipient will be selected by a committee composed of Post-Basic Nursing faculty and students. The award may be withheld in the event that no sufficiently deserving candidate is available.
Donor: Miss Iva Smith of Edmonton.
Apply: By nomination from Faculty/Department.

The McClure Book Prize

Field: Nursing
Value: $125
Number: 1
Conditions: Awarded annually to the student graduating from the Midwifery Certificate in the Master of Nursing Program who has shown the highest degree of academic attainment and clinical proficiency.
Donor: Endowed by friends of Miss RE McClure.
Apply: By nomination from Faculty/Department.

The Faculty of Medicine Book Prize in Nursing

Value: $50 towards book
Conditions: To be awarded to a graduating student from the BSc Nursing four year degree program for outstanding merit based on both academic standing (grade point average not less than 7.0) and a proficiency in Nursing.
Donor: The Faculty of Medicine from funds provided to the Faculty by Mr JB Starky of Edmonton. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Cheryl Lynn Osborne Memorial Scholarship in Nursing

Field: Nursing
Value: $500
Number: 1
Conditions: To be awarded annually to a student graduating from the four year BSc Nursing program. Selection will be made on the basis of high academic achievement, dedication to the nursing profession and possession of those personal qualities valued by the Faculty of Nursing in its graduates.
Donor: Endowed by Mr Brent Osborne in memory of his late wife, Cheryl Lynn, a graduate of the BSc Nursing program at the University of Alberta.
Apply: By nomination from Faculty/Department.

The Molly Policha Scholarship in Public Health Nursing Practice

Field: Nursing
Value: $300
Number: 1
Conditions: To be awarded annually on the basis of outstanding academic merit to a student graduating from the Post-RN Bachelor of Science in Nursing program.
Donor: Endowed by friends of Molly Policha.
Apply: By nomination from Faculty/Department.

The WB Saunders Company Prize in Nursing

Value: One year's subscription to "Nursing Clinics of North America"
Conditions: Awarded annually to a student of outstanding merit graduating from the BSc Nursing four year degree program.
Donor: WB Saunders Company Limited, Publishers, Toronto, Canada. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Board of Governors Prizes in Nursing

Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first, second and third years of the Faculty. If two or more students are equal for first place, each will receive a full award. Such a prize may also be awarded to the student with the highest academic standing at the end of the first year of the two year program for BSc Nursing after RN
Donor: The Escheated Estates Fund of the University of Alberta.
Apply: By nomination from Faculty/Department.

The Marjorie Bradford Awards in Nursing

Value: One scholarship of $400, two bursaries of $600 each
Conditions: (1) A scholarship of $400 to be awarded to a student of outstanding merit at the end of the first year of the degree program for Registered Nurses. (2) Two bursaries of $600 to be offered on the basis of academic standing and financial need, to students at the end of the first year of the 4 year BSc Nursing program.
Donor: Endowed through a bequest by the late Marjorie Bradford of Ottawa.
Apply: By nomination from the Faculty of Nursing.

The Margaret Dell Prize

Field: Nursing
Value: $500
Number: 2
Conditions: Awarded annually to a student in either year 3 or 4 of the Basic RN Program, or year 2 of the post RN Bachelor of Science Degree program in Nursing, who has an excellent academic record and a special interest in working with handicapped children in the community. The student selected is expected to visit a Residential Resources children's facility, preferably Rosecrest Home, prior to receiving the award.
Donor: Endowed by the family, friends and colleagues of the late Mrs Margaret Dell, former Director of Rosecrest Home, an Alberta Government Social Services Residential Resources Children's Facility.
Apply: By nomination from Faculty of Nursing.

WC Fraser Scholarship in Nursing

Field: Nursing
Value: $500
Number: 1
Conditions: Awarded to a student entering the third or fourth year of the Post RN Bachelor of Science program in the Faculty of Nursing on the basis of superior academic achievement.
Donor: Endowed by WC Fraser.
Apply: By nomination from the Faculty of Nursing.

The Ruth Halliday Johnson Bursaries

Field: Nursing
Value: $500
Number: 2
Conditions: To be awarded annually on the basis of high academic standing and financial need to two students in the four year BSc basic program of the Faculty of Nursing. Preference will be given to students who have taken their secondary level education at schools in the County of Grande Prairie.
Donor: Mr Verne R Johnson of Beaverlodge.
Apply: By nomination from the Faculty of Nursing.

The Helen MacArthur Prize in Nursing

Value: $200
Conditions: Offered to a student of outstanding academic merit completing the first year of the degree program for Registered Nurses.
Donor: The Friends of the University.
Apply: By nomination from Faculty/Department.

Nursing Alumni Association Scholarship

Field: Nursing
Value: $1,000
Number: 1
Conditions: To be awarded annually to a student with superior academic standing in second or subsequent years of the Basic Baccalaureate Program. Leadership potential and/or contribution to the profession will be considered.
Donor: Nursing Alumni Association.
Apply: By nomination from the Faculty of Nursing.

The Ian Kurtis Osborne Memorial Scholarship in Nursing

Field: Nursing
Value: $500
Number: 1
Conditions: To be awarded annually on the basis of high academic standing, financial need, and personal qualities to a student completing the third year of the BSc Nursing program.
Donor: Endowed by Mr Brent Osborne in memory of his late son, Ian Kurtis, whose mother, the late Cheryl Lynn Osborne, was a graduate of the BSc Nursing program at the University of Alberta.
Apply: By nomination from Faculty/Department.

The Eleanor J Shook Memorial Bursaries in Nursing

Value: $900
Number: 3
Conditions: To be offered, on the basis of academic standing and financial need to students in the BSc program of The University of Alberta Faculty of Nursing.
Donor: Endowed through a bequest by the late Eleanor J Shook.
Apply: By nomination from the Faculty of Nursing.

The Molly Spohn Bursary

Field: Nursing
Number: Variable
Value: Variable – depending upon financial need
Conditions: The Molly Spohn Bursary is available to provide assistance to students with dependents who have a demonstrated financial need, and who have maintained satisfactory academic standing in their program. The criteria for selection is that the applicant has one or more dependents. This will include either single parents, or an individual with a dependent parent, sibling or other relative.
Donor: Endowed by Mrs Molly Whittaker
Apply: Faculty of Nursing.

The Alice Thomas Bursary in Nursing

Field: Nursing
Value: Variable, depending on interest accumulated on endowment
Number: 1
Conditions: To be awarded annually to a student who is a citizen of an Asian country and registered in the Post RN program at the University of Alberta. Selection will be based primarily on financial need. In the event that a suitable candidate cannot be found, the bursary will be allotted to a student from a developing country (as defined by CIDA).
Donor: Endowed by Ms Alice MacKinnon.
Apply: By nomination from the Faculty of Nursing.

223.13.2 Awards From Other Sources

Alberta Association of Registered Nurses

There are other forms of financial assistance available to students in Nursing. For information contact the Alberta Association of Registered Nurses, 10256 - 112 Street, Edmonton.

The Nursing Undergraduate Society Prize

Value: $150
Number: 1
Conditions: To be awarded to an undergraduate student in either the Basic or Post-Basic BSc Nursing program. Basis of the prize will be participation in nursing related activities, both within the Faculty and the community.
Donor: The University of Alberta, Nursing Undergraduate Society.
Apply: Applications to be submitted in writing, stating qualifications, by February 28th to the President of NUS.

Victorian Order of Nurses Bursaries

Field: Community Health Preparation
Value: Up to $3,500
Conditions: May be awarded to registered nurses enrolled at a Canadian university in a diploma course in the final year of a basic or post-basic degree program which includes preparation in public health nursing. Awards carry an employment commitment of one year to the VON.
Apply: Carole Prefontaine-Adolph, Director, Human Resources, VON for Canada, 5 Blackburn Avenue, Ottawa, Ontario K1N 8A2.

223.14 Faculty of Pharmacy and Pharmaceutical Sciences

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.14.1 Undergraduate Awards

Note: Medals and awards to graduating students are listed first. All other awards are listed alphabetically.

The Alberta Pharmaceutical Association Gold Medal

Field: Pharmacy
Value: A 24 kt Gold Medal plus first year membership in the Alberta Pharmaceutical Association.
Conditions: The gold medal is awarded to the most outstanding student in the graduating class.
Donor: The Alberta Pharmaceutical Association.
Apply: By nomination from Faculty/Department.

The Horner Medal and Award

Value: $300 cash and silver medal.
Number: 1.
Conditions: Offered annually to a student of outstanding

merit in PHARM 487 and 488 (Pharmaceutical Therapeutics).
Donor: Frank W Horner Limited.
Apply: By nomination from Faculty/Department.

The Smith, Kline & French Leadership Award
Value: $500
Number: 1
Conditions: To be awarded on an annual basis to the graduating student who has most exemplified professional behaviour and leadership to his peers. The recipient will be selected from a list of nominees proposed by the Pharmacy student body. Acceptable academic record will also be a criterion for selection.
Donor: Smith Kline & French Canada Ltd.
Apply: By nomination from Faculty/Department.

The Alberta Pharmaceutical Association Awards
Field: Pharmacy
Value: $250 each
Number: 3
Conditions: To be awarded to three students, one entering second year, one entering third year and one entering the final year on the basis of outstanding merit in the program of courses just completed.
Donor: The Alberta Pharmacutical Association.
Apply: By nomination from Faculty/Department.

The Alberta Pharmaceutical Association Scholarship
Established to commemorate the 75th Anniversary of the Faculty of Pharmacy and Pharmaceutical Sciences.
Field: Pharmacy
Value: $500
Number: 1
Conditions: To be awarded annually to a student of superior academic excellence entering the final year of the program who has demonstrated exemplary professionalism in the courses related to professional practice.
Donor: Endowed by the Alberta Pharmaceutical Association.
Apply: By nomination from the Faculty of Pharmacy and Pharmaceutical Sciences.

Dr Art Anderson Scholarship
Field: Pharmacy
Value: $250
Number: 1
Conditions: Award will be based on the standing in the required subjects of the preprofessional year. The student must have attended Grade XII in that part of Alberta south of a line from Rocky Mountain House to Red Deer to Coronation, but not including these centres.
Donor: Calgary Pharmaceutical Society.
Apply: Director of Student Awards by June 3.

The Apotex Foundation Scholarships in Pharmacy
Field: Pharmacy
Number: 2
Value: $400
Conditions: To be awarded annually to two students, one entering the third year, and one entering the final year on the basis of superior academic achievement in the previous full academic year just completed and contributions to student life in the faculty and/or University (e.g., leadership qualities, extra-curricular activities, etc.).
Donor: Endowed by the Apotex Foundation, created by Apotex Inc., Toronto, to fund scholarly activities in Canadian universities.
Apply: By nomination from the Faculty of Pharmacy.

The Board of Governors Prizes in Pharmacy
Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first, second and third years of the Faculty. If two or more students are equal for first place, each will receive a full award.
Donor: The Escheated Estates Fund of The University of Alberta.
Apply: By nomination from Faculty/Department.

The Burroughs Wellcome Prize
Value: $350
Number: 1
Conditions: Awarded annually to a student completing second year based on courses in Pharmacy in the preceding year.
Donor: Burroughs Wellcome Inc.
Apply: By nomination from Faculty/Department.

The Centennial Pharmacy Travel Award
Field: Pharmacy
Value: Two weeks travel plus $400
Number: 1
Conditions: This scholarship enables a third year student to join with pharmacists and fellow students in attending the annual meeting of the Canadian Pharmaceutical Association. During the week prior to the convention, the award winner and students from schools of pharmacy from across Canada travel across the country touring government agencies, community pharmacies, hospital pharmacies and pharmaceutical manufacturers. Selection of the recipient is based on academic ability and contributions to the undergraduate life of the attending school. Selection will be made in February by the faculty.
Donor: Presented jointly by the Canadian Pharmaceutical Association, the pharmacist/owners of Shoppers Drug Mart Stores and the Alberta Pharmaceutical Association.
Apply: By nomination from Faculty/Department.

The Charles Cummer Memorial Prize
Value: $100
Conditions: Offered to a student of outstanding merit entering the second, third or fourth year of the Faculty.
Donor: Endowed by the late Mrs Sarah A. Cummer of Edmonton. The award will be forwarded directly to the student by the trust company.
Apply: By nomination from Faculty/Department.

The Edmonton Ladies' Pharmaceutical Auxiliary Scholarship
Value: $500
Conditions: Offered annually on the basis of academic standing to a student entering fourth year Pharmacy.
Apply: By nomination from Faculty/Department.

The Charles E Frosst Scholarship
Value: $500
Conditions: Offered annually on the basis of academic standing and financial need to a student entering second, third or the final year of the Faculty of Pharmacy.
Donor: Charles E Frosst and Company, Montreal.
Apply: By nomination from Faculty/Department.

The Mervyn J Huston Scholarship in Pharmacy
Field: Pharmacy
Value: $500
Number: 1
Conditions: To be awarded annually to a student of outstanding academic merit entering second, third, or the final year of the Pharmacy program.
Donor: The Alberta Pharmaceutical Association.
Apply: By nomination from Faculty/Department.

The Merck Sharp and Dohme Scholarship in Pharmacy
Value: $500 plus the Merck Manual and Merck Index
Number: 1
Conditions: Offered annually on the basis of academic standing to a student entering third year of the Faculty of Pharmacy.
Donor: Merck, Sharp and Dohme Canada, Limited.
Apply: By nomination from Faculty/Department.

The Northwest Drug Community Pharmacy Scholarships
Value: $500
Number: 2
Conditions: To be awarded on the basis of academic standing to two students entering their final year who have elected the community pharmacy pattern of studies. One award winner must have attended Grade XII in that part of Alberta south of a line from Rocky Mountain House to Red Deer to Coronation, but not including these centres, and the other in one of these centres or North of that line.
Donor: Northwest Drug.
Apply: By nomination from Faculty/Department.

The Novopharm Scholarships in Pharmacy
Field: Pharmacy
Value: $500
Number: 2
Conditions: Offered annually to two students of superior academic achievement, one of whom has demonstrated excellence in subjects related to Pharmaceutical Chemistry and the other in subjects related to Pharmaceutics/Biopharmaceutics.
Donor: Novopharm Ltd.
Apply: By nomination from the Faculty of Pharmacy.

The Parke-Davis Self-Medication Scholarship
Field: Pharmacy
Value: $500
Number: 1
Conditions: Awarded annually to the second year student receiving the highest grade in PHARM 300 in which Self-Medication and non-prescription drug products are the principal topics.
Donor: Parke-Davis Canada Inc.
Apply: By nomination from the Faculty of Pharmacy.

The Pfizer Canada Inc Bursary in Pharmacy
Field: Pharmacy
Value: $500
Number: 1
Conditions: To be awarded annually on the basis of academic standing and financial need to a student entering the final year of the undergraduate program in Pharmacy.
Donor: Pfizer Canada Inc.
Apply: By nomination from Faculty/Department.

The Shoppers Drug Mart Community Pharmacy Scholarships
Field: Pharmacy
Value: $500 each
Number: 2
Conditions: To be awarded on the basis of high academic standing to two students, one at the end of second year, and one at the end of third year, in the Faculty of Pharmacy. Preference will be given to individuals who express an interest in Community Pharmacy. A minimum grade point average of 7.5 is required.
Donor: Shoppers Drug Mart, Calgary.
Apply: By nominations from Faculty/Department.

The Upjohn Company of Canada Scholarship
Field: Pharmacy
Value: $500
Number: 1
Conditions: Offered annually on the basis of superior academic standing to a student entering second, third, or fourth year Pharmacy.
Donor: The Upjohn Company of Canada.
Apply: By nomination from Faculty/Department.

The Value Drug Mart Scholarships
Field: Pharmacy
Value: $500 each
Number: 4
Conditions: Awarded annually on the basis of superior academic achievement to four students, one entering the first year, one the second, one the third, and one the fourth year of the program.
Donor: Value Drug Mart Associates Ltd.
Apply: By nomination from the Faculty of Pharmacy

The GR Van Petten Memorial Scholarship
Field: Pharmacology
Value: $500
Number: 2
Conditions: To be awarded annually to a student registered in the Faculty of Pharmacy who attained the highest academic standing in Pharmacology 431.
Donor: Endowed by Friends and Associates of the late Garry Van Petten.
Apply: By nomination from Faculty/Department.

The MJ Warner Memorial Prize
Field: Pharmacy
Value: $250
Number: 1
Conditions: To be awarded to a student entering fourth year, based on courses in Pharmacy in the preceding year.
Donor: The Alberta Pharmaceutical Association.
Apply: By nomination from Faculty/Department.

The West Canadian Color Scholarship
Value: $500
Number: 1
Conditions: To be awarded on the basis of high academic standing to a student entering second, third or fourth year of the Faculty of Pharmacy.
Donor: West Canadian Color, Calgary.
Apply: By nomination from Faculty/Department.

223.15 Faculty of Physical Education and Recreation

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.15.1 Undergraduate Awards

Note: Medals and awards to graduating students are listed first. All other awards are listed alphabetically.

The University of Alberta Alumni Medal in Physical Education and Recreation
Field: Physical Education and Recreation
Conditions: Offered to the outstanding graduating student in Physical Education and Recreation, provided that the student has been registered in a full year's program and has obtained an average of at least 7.0 in the final year.
Donor: The Alumni Association of The University of Alberta.
Apply: By nomination from Faculty/Department.

The Alan F Affleck Award in Recreation and Leisure Studies
Field: BA (Recreation Administration)
Value: $400

Number: 1
Conditions: Awarded to a student graduating in the Spring, based on an overall GPA of at least 6.0 in the final two years of the program, as well as involvement with the Recreation Students Society, and community involvement at the University of Alberta and in the recreation field. The student must have been in full-time attendance in the final year of the program.
Donor: Endowed by the Recreation Students Society and other donors, in recognition of Alan F Affleck.
Apply: Apply to the office of the Chair, Department of Recreation and Leisure Studies by February 15.

The Anniversary Scholarship in Recreation Administration

Field: Recreation Administration
Value: $550
Number: 1
Conditions: To be awarded annually to a student registered full time in the Bachelor of Arts degree program in Recreation Administration on the basis of high academic standing, and contributions to and involvement with: the Recreation Students Society, Recreation students in general, academic life at the University of Alberta, professional and community organizations and associations in the general field of recreation and leisure services.
Donor: The Recreation Students' Society of the University of Alberta.
Apply: Chair of the Department of Recreation and Leisure Studies by February 15.

Dr EE Bako Scholarship

Field: Physical Education
Value: $1,100
Number: 1
Conditions: To be awarded annually to a student entering fourth year on the basis of high academic standing combined with an interest and involvement in the area of fitness, health and lifestyle improvement. Special consideration will be given to mature students who also meet the above conditions.
Donor: Friends of the Bako family who wished to recognize and honor the dedication and commitment of Dr Bako to the improvement of the lives of Albertans. Dr Bako was an honorary professor in the Faculty of Physical Education and Recreation from 1974 to 1984. This scholarship will serve to remind students and colleagues of the Faculty of Dr Bako's commitment and dedication to health, fitness and positive lifestyle development.
Apply: Faculty of Physical Education and Recreation by February 15.

The Board of Governors Prizes in Physical Education and Recreation

Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first, second and third years of the Faculty. If two or more students are equal for first place, each will receive a full award.
Donor: The Escheated Estates Fund of the University of Alberta.
Apply: By nomination from Faculty/Department.

The Michael Cameron Memorial Scholarship

Field: Physical Education and Sports Studies
Value: $500
Number: 1
Conditions: Awarded annually to a student in the Athletic Therapy Route entering the third or fourth year of the BPE degree with first class standing.
Donor: Endowed by family, friends, and associates of the South East Edmonton Recreation Association, in memory of Michael Cameron, a student planning to enter the BPE degree to study Athletic Therapy, who lost his life in a tragic hockey accident in 1989.
Apply: By nomination from the Department of Physical Education and Sports Studies.

The Jennye Clearwater Scholarship in Recreation Administration

Field: Recreation Administration
Value: $500
Number: 1
Conditions: To be awarded annually to a student entering the final year of the Bachelor of Arts degree program in Recreation Administration. Basis of selection will be academic standing during the third year of the program.
Donor: Mrs Jennye Clearwater, a former staff member of the Department of Recreation Administration.
Apply: Department of Recreation and Leisure Studies

The Martin M Gill Memorial Award

Field: Physical Education
Value: $500
Number: 1
Conditions: To be awarded annually to a student entering the second, third, or fourth year of the Faculty of Physical Education and Recreation. That student must be self supporting and show a broad base of extracurricular activities and athletic involvement.
Donor: Endowed by his mother, Connie M Langille and family in memory of Martin M Gill who died August 17, 1986 at the age of 23. Martin was an accomplished athlete and commercial pilot who became a quadriplegic in a diving accident. Although paralyzed from the neck down, he completed the final two years of his BCom with Honours at the University of Alberta.
Apply: To the Office of Student Awards by June 3.

The AG (Gil) Gilmet Award

Field: Physical Education and Sport Studies or Recreation and Leisure Studies
Number: 1
Value: $550
Conditions: Awarded annually in September to the third year student in the Faculty of Physical Education and Recreation who best combines academic achievement with an ongoing record of voluntary community service. Current qualification as a Red Cross instructor in water safety, small craft safety, or first aid, as well as financial need may be taken into account.
Donor: Endowed by friends of Gil Gilmet
Apply: By nomination from the Faculty.

The Dorothy Harris Dance Award

Field: Open
Value: Variable
Number: 1
Conditions: To be awarded annually, on the basis of superior academic achievement to an undergraduate student who has shown an interest in and contributed to dance choreography or performance at the University of Alberta.
Donor: Endowed by the alumni of the Orchesis Dance Club at the University of Alberta and other individuals interested in dance in honor of Dorothy Harris for her contribution to Orchesis and the field of dance.
Apply: By nomination from the Department of Physical Education and Sport Studies. Selection will be made in consultation with a full-time staff member who supervises Orchesis.

The Janie Larsen Memorial Prize

Field: Recreation Administration
Value: $400
Number: 1
Conditions: To be awarded annually to a student entering second year who is registered full time in the Bachelor of Arts degree program in Recreation Administration at the University of Alberta. Recipient must be a member of the Recreation Students' Society and have an overall grade point average of at least 6.0.
Donor: The Larsen family and the Recreation Students' Society.
Apply: To the Chair, Department of Recreation and Leisure Studies, by April 2.

The Margie Mitchell Memorial Prize

Field: Recreation Administration
Value: $400
Number: 1
Conditions: To be awarded annually to an undergraduate student entering the second, third, or fourth year of the Bachelor of Arts degree in Recreation Administration. The award shall be based upon: academic achievement, contribution to and involvement with the Recreation Students' Society and Recreation students in general, contribution to and involvement in professional and community organizations and associations in the general field of recreation and leisure services.
Donor: The Recreation Students' Society and private donors.
Apply: Department of Recreation and Leisure Studies by February 15.

The Marokus Prize in Physical Education

Value: $200
Number: 1
Conditions: To be awarded annually on the basis of high academic standing combined with gymnastics ability to a student registered in the Bachelor of Physical Education degree program.
Donor: Dr Roy Marokus in appreciation of the instruction offered by the Department of Physical Education to his daughters, Brooke Harmon Marokus, and Kristin Cameron Marokus.
Apply: By nomination from Faculty/Department.

The Reg Rault Memorial Scholarship

Field: Physical Education
Value: $750
Number: 1
Conditions: This scholarship is presented annually to a student completing the second or third year of the BPE degree program who best combines a high level of competence in outdoor education with academic ability. A major consideration will also be given to the student's financial need.
Donor: Endowed by Mrs Ethel Rault and family in memory of Mr Reg Rault, winner of the 1939 Northern Alberta Cross Country Ski Championship, founder of the Edmonton Journal Learn-to-Ski program, and recipient of a City of Edmonton Recreation Citation.
Apply: By nomination from Faculty/Department.

The ML Van Vliet Scholarship

Field: Physical Education or Recreation
Number: 1
Value: $750
Conditions: Awarded annually on the basis of outstanding achievement in the field of physical education or recreation to a student entering the fourth year of either the BPE or BA in Recreation Administration degrees.
Donor: Endowed by friends and former University athletes in honor of Dr ML Van Vliet, Professor Emeritus, former Dean of the Faculty, and architect of the present Faculty of Physical Education and Recreation.
Apply: By nomination from Faculty/Department.

Halladay Memorial Student Award

Field: Any program related to recreation and parks
Value: Tuition
Number: 1
Conditions: Awarded annually to a student on any year who has contributed in an outstanding manner to recreation or parks in Alberta. Awarded on the basis of community involvement, participation in extra curricular activities, participation in special courses or workshops, work experience and academic standing.
Donor: Alberta Recreation and Parks Association.
Apply: By letter to Awards Committee, ARPA, Percy Page Centre, 13 Mission Avenue, St. Albert, Alberta, T8N 1H6. Letter should include resume, references from professors, agencies or employers, photograph for release purposes and grades based on official transcripts. Deadline is May 31st.

223.16 Faculty of Rehabilitation Medicine

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.16.1 Undergraduate Awards

Note: Medals and awards to graduating students are listed first. All other awards are listed alphabetically.

Dean's Medal in Rehabilitation Medicine

Field: Rehabilitation Medicine
Number: 1
Conditions: To be awarded to the graduating student from the Faculty of Rehabilitation Medicine who has the highest average in courses taken at the University of Alberta credited towards the degree.
Donor: Faculty of Rehabilitation Medicine.
Apply: By nomination from the Faculty of Rehabilitation Medicine.

The Medal in Occupational Therapy Undergraduate Award

Field: Occupational Therapy
Value: Medal and $100
Number: 1
Conditions: Awarded to a student in the graduating class who has demonstrated outstanding scholarship through graduation with distinction and who has most exemplified peer recognized professional behavior through leadership and personal qualities. The recipient will be selected from a list of nominees proposed by the graduating class.
Donor: The Occupational Therapy Alumni.
Apply: By nomination from the Department of Occupational Therapy.

The Occupational Therapy Book Prize

Value: $40 for books
Conditions: Offered annually to the student obtaining the highest standing in the final year of the BSc program in Occupational Therapy, provided that his or her record is otherwise satisfactory.
Donor: The Alberta Association of Registered Occupational Therapists. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Canadian Association of Occupational Therapists Book Prize

Value: $75 for books
Conditions: To be awarded to the graduating student who has achieved the highest standing in the theory of occupational therapy during the entire program.
Donor: The Canadian Association of Occupational Therapists.
Apply: By nomination from Faculty/Department.

The Canadian Physiotherapy Association Prize
Field: Physiotherapy
Value: A certificate and first year membership in the Canadian Physiotherapy Association
Number: 1
Conditions: To be awarded to the physiotherapy student in the graduating class who has obtained the highest aggregate mark in academic and clinical physiotherapy subjects during the entire program.
Donor: The Canadian Physiotherapy Association.
Apply: By nomination from Faculty/Department.

The Madeline Pierson Memorial Book Prize in Occupational Therapy
Value: $75
Conditions: Offered annually to the final year student who obtains the highest mark in Psychiatry, providing that his or her record is otherwise satisfactory throughout the program.
Donor: The Alberta Association of Registered Occupational Therapists. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

College of Physical Therapists of Alberta (CPTA) Scholarship
Field: Physiotherapy
Value: Tuition and fees
Number: 1
Conditions: To be awarded to the student with the highest aggregate marks in all physiotherapy subjects in the first year of the program. The student must be proceeding into a full time second year of study in physiotherapy.
Donor: College of Physical Therapists of Alberta.
Apply: By nomination from the Department of Physical Therapy.

The Board of Governors Prizes in Rehabilitation Medicine
Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first, second and third years of the Faculty. If two or more students are equal for first place, each will receive a full award.
Donor: The Escheated Estates Fund of the University of Alberta.
Apply: By nomination from Faculty/Department.

The Calgary District Canadian Physiotherapy Association Scholarship
Field: Physiotherapy
Value: Tuition and fees
Number: 1
Conditions: To be awarded to the student who has most improved academically during the second year of the Physiotherapy program.
Donor: Calgary District, Canadian Physiotherapy Association.
Apply: By nomination from Faculty/Department.

The Canadian Foundation for Poliomyelitis and Rehabilitation (Alberta Chapter) Bursaries
Value: $800 each
Number: 4
Conditions: Awarded annually to applicants entering the first, second, third or fourth year of Rehabilitation Medicine. The basis of the award will be academic standing. It is expected that recipients will carry on their profession in Alberta for a reasonable period after graduation.
Donor: The Royal Canadian Legion.
Apply: Director of Student Awards - undergraduates by June 3 or Matriculants by July 15.

The Canadian Physiotherapy Association (Edmonton District) Student Scholarship
Field: Physiotherapy
Value: Tuition and fees
Number: 1
Conditions: One scholarship is to be awarded each year to the student with the highest grade point average in third year of the Physiotherapy program.
Donor: The Edmonton District of the Canadian Physiotherapy Association
Apply: By nomination from the Faculty.

The Dr JR Fowler Book Prize
Value: Book prize of value of $100
Conditions: To be awarded to a student in Occupational Therapy or Physiotherapy on the basis of academic standing, personal qualities and contribution to the Faculty during the undergraduate years.
Donor: Endowed by Dr JR Fowler, former Director.
Apply: Selection will be made by a joint student and faculty committee.

The EW Kuder Scholarship in Rehabilitation Medicine
Field: Occupational Therapy, Physical Therapy, Speech Pathology and Audiology
Value: $1,000 plus a pin
Number: 3
Conditions: To be awarded annually to one third or fourth year student in each of the programs in the Faculty of Rehabilitation Medicine who, after graduation, intends to give a least one year of service in a hospital outside the metropolitan centres of Edmonton and Calgary.
Donor: Endowed by Emil William Kuder and family of Edmonton.
Apply: Dean of the Faculty of Rehabilitation Medicine, Corbett Hall, University of Alberta by December 1.

The Red Deer Elks Lodge Scholarship
Field: Speech Pathology and Audiology
Value: $250
Number: 2
Conditions: Awarded annually to students entering the fourth year of Speech Pathology and Audiology. The basis for selection will be academic standing and extra-curricular participation in the area of Speech Pathology and Audiology.
Donor: Red Deer Elks Lodge No. 85, Red Deer, Alberta.
Apply: By nomination from Faculty/Department.

The Respiratory Physical Therapy Prize
Field: Physiotherapy
Value: Variable, to be determined by the amount of accumulated interest
Number: 1
Conditions: To be awarded annually to a fourth year Physical Therapy student on the basis of superior academic achievement in Respiratory Physical Therapy courses in second and third years.
Donor: Endowed by Mrs Moyna Parker, Associate Professor, Faculty of Rehabilitation Medicine.
Apply: By nomination from the Faculty of Rehabilitation Medicine.

The Speech Pathology and Audiology Book Prize
Field: Speech pathology
Value: $50
Number: 2
Conditions: One book is awarded to the fourth year student displaying the highest academic achievement in the Department of Speech Pathology and Audiology (based on achievements from the first year of the program to the time of decision). A second book is awarded to the fourth year student in Speech Pathology and Audiology displaying the highest clinical achievement (based on practicum achievements in the third and fourth year to the time of the decision).
Donor: The Speech and Hearing Association of Alberta.
Apply: Selection will be made by a faculty committee and presentation will be made directly by donor.

223.16.2 Awards From Other Sources

The Occupational Therapy Book Prize
Field: Occupational Therapy
Value: $75
Number: 1
Conditions: Awarded to a graduating student for outstanding fieldwork achievement throughout the program.
Donor: Alberta Association of Registered Occupational Therapists
Apply: Selection will be made by the Alberta Association of Registered Occupational Therapists in consultation with a faculty committee. Presentation will be made directly by donor.

The Alberta Association of Registered Occupational Therapists Bursary
Field: Occupational Therapy
Value: $500
Number: 1
Conditions: To be awarded annually to a mature student registered in the third or fourth year of the Undergraduate program of Occupational Therapy. The award will be based on financial need and acceptable academic standing of the applicant.
Donor: Alberta Association of Registered Occupational Therapists.
Apply: Awards Committee, Alberta Association of Registered Occupational Therapists Occupational Therapy Department Corbett Hall, University of Alberta by May 1.

Edmonton District Canadian Physiotherapy Scholarship
Field: Physiotherapy
Value: Tuition and fees
Number: 1
Conditions: To be awarded to the student with the highest aggregate marks in the third year of the physiotherapy program. The student must be proceeding into a full-time fourth year of study in physiotherapy.
Donor: Edmonton District, Canadian Physiotherapy Association.
Apply: By nomination from Faculty/Department.

Workers' Compensation Board Bursary
Field: Occupational Therapy
Value: Up to $2,000
Number: 1
Conditions: To be awarded to a student entering the final year of the degree program, on the basis of academic standing, work experience, personal qualities and interest in orthopaedic rehabilitation. Must give one year of service following graduation.
Donor: Workers' Compensation Board of Alberta.
Apply: By application to the Workers' Compensation Board, Personnel Department, 9912 - 107 Street, P.O. Box 2415, Edmonton, Alberta, T5J 2S5.

Workers' Compensation Board Bursary
Field: Physical Therapy
Value: Up to $2,000
Number: 1
Conditions: To be awarded to a student entering the final year of the degree program, on the basis of academic standing, work experience, personal qualities and interest in orthopaedic rehabilitation. Must give one year of service following graduation.
Donor: Workers' Compensation Board of Alberta.
Apply: By application to the Workers' Compensation Board, Personnel Department, 9912 - 107 Street, P.O. Box 2415, Edmonton, Alberta, T5J 2S5.

223.17 Faculté Saint-Jean

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.17.1 Undergraduate Awards

The Marie-Louise Brugeyroux Gold Medal
Field: Education in Faculté Saint-Jean
Value: 18Kt gold medal
Number: 1
Conditions: Awarded annually to the graduating student who, in the final two years of the Bachelor of Education program in the Faculté Saint-Jean, has shown the highest academic achievement and proficiency in the Education program.
Donor: The Alberta Teacher's Association in honor of Marie-Louise Brugeyroux, a long-time teacher and former supervisor of French as a second language in the Edmonton Separate School system.
Apply: By nomination from Faculté Saint-Jean.

La Medaille D'or des Peres Oblats (The Oblate Fathers Gold Medal)
Field: Faculté St. Jean
Value: Gold Medal
Number: 1
Conditions: Awarded to the graduating student from any program in Faculté Saint-Jean who has shown the highest distinction in scholarship on a minimum of 10 full course equivalents. Candidates must be Canadian Citizens or Permanent Residents; who are deemed to have mastered the French language.
Donor: Endowed by Le Fonds St-Jean.
Apply: By nomination from the Faculté St. Jean.

The Board of Governors Prizes for Faculté Saint-Jean
Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first, second and third years of the Faculté. If two or more students are equal for first place, each will receive a full award.
Donor: The Escheated Estates Fund of The University of Alberta.
Apply: By nomination from Faculty/Department.

The Consul General of France's Book Prize
Field: Faculté Saint-Jean program other than French Language and Literature
Number: 1
Conditions: To be awarded annually to the graduating student from Faculté Saint-Jean achieving the highest academic standing in a BA or BSc program for studies done and presented in French in any discipline other than french language and literature.
Donor: The Consul General of France. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Consul General of France's Book Prize in French Language and Literature

Field: Faculté Saint-Jean program in French Language and Literature
Number: 1
Conditions: To be awarded annually to the graduating student from Faculté Saint-Jean who achieves the highest academic standing in a BA or BEd program with specialization in French language and literature.
Donor: The Consul General of France. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The Jean Patoine Scholarship

Field: Any degree program at Faculté Saint-Jean
Value: $1,800
Number: 1
Conditions: To be awarded annually to an Albertan whose first language is French entering Faculté Saint-Jean. Based upon academic standing and extracurricular involvement.
Donor: Endowed by the Club Richelieu and the Fonds Jean Patoine for the support of post-secondary studies in French.
Apply: Applications must be received by April 30, by the Selection Committee (c/o Dean, Faculté Saint-Jean).

The Soeurs de l'Assomption de la Sainte Vierge Scholarship

Field: BEd Program at Faculté Saint-Jean
Value: $700
Number: 1
Conditions: To be awarded annually to a student from Alberta or Saskatchewan who is registered as a full-time student at Faculté Saint-Jean in the Bachelor of Education program and whose first language is French. Selection will be based upon superior academic standing and extracurricular involvement. Financial need of the student is given special consideration.
Donor: The Soeurs de l'Assomption de la Sainte Vierge.
Apply: Applications must be received by April 30. Send application to the Comité de sélection, Bourse des Soeurs de l'Assomption, a/s Doyen, Faculté Saint-Jean.

223.18 Faculty of Science

See §221.1.1 and §222.2.1 for general information concerning matriculation and undergraduate awards.

223.18.1 Undergraduate Awards

Note: Awards in specific courses offered by the Faculty of Science are open to any student taking the course, regardless of the faculty in which a student may be registered.

Note: Medals and awards to graduating students are listed first. All other awards are listed alphabetically.

General Awards

The Lieutenant-Governor's Gold Medal

Conditions: Awarded to the graduating student from an Honors program in the Faculty of Science who has shown the highest distinction in scholarship.
Donor: His Honor the Lieutenant-Governor.
Apply: By nomination from Faculty/Department.

The Gold Medal in Science

Field: Science
Value: Gold Medal
Conditions: Awarded to the graduating student from the Specialization programs in the Faculty of Science who has shown the highest distinction in scholarship.
Donor: Faculty of Science.
Apply: By nomination from Faculty/Department.

The Dean's Gold Medal in Science

Conditions: Awarded to the graduating student from the general program in the Faculty of Science who has shown the highest distinction in scholarship.
Donor: The Dean of Science.
Apply: By nomination from Faculty/Department.

The Dean's Silver Medals in Science

Value: Silver Medal
Number: Variable
Conditions: To be awarded to graduating students from an Honors program in the Faculty of Science who have had a minimum average of 8.0 in each of the last three years of the program.
Donor: The Faculty of Science.
Apply: By nomination from Faculty/Department.

The Alberta Society of Professional Biologists' Scholarship

Field: Honors or Specialization program in Botany, Entomology, Genetics, Microbiology or Zoology
Value: $500 plus a one year membership and admission to the next symposium of the society
Number: 1
Conditions: To be awarded on the basis of academic merit, to a student entering the fourth year of Specialization or Honors program in the Biological Sciences, who intends to graduate with a degree in Biology.
Donor: The Alberta Society of Professional Biologists.
Apply: By nomination from Faculty/Department.

The ATRC Telecommunications Undergraduate Research Awards

Field: Development of engineering applications in telecommunications through disciplines of engineering, computing sciences and other fields.
Value: Current value ranges from $2,400 to $3,000 per year, plus travel if necessary.
Number: Variable
Conditions: Awarded to Canadian students completing the 3rd year or 4th year of undergraduate study and receiving a NSERC Undergraduate Summer Research Award. Candidates must carry out their work at ATRC.
Donor: The Alberta Telecommunications Research Centre (ATRC) has established this award to promote and advance technological innovations in the telecommunications field by joint participation between academic and industrial researchers.
Apply: Mr W.L. Olsen of the Alta Telecommunications Research Centre, #200, 4245 - 97 St., Edmonton, Alberta T6E 5Y4.

The Board of Governors Prizes in Science

Value: $200 each
Conditions: To be awarded to the student with the highest academic average at the end of each of the first, second and third years of the Faculty. If two or more students are equal for first place, each will receive a full award. Students in a graduating year of a program are not eligible.
Donor: The Escheated Estates Fund of The University of Alberta.
Apply: By nomination from Faculty/Department.

The Hewlett-Packard (Canada) Ltd Calculator Awards

Field: Computing Science
Value: HP 28S Calculator
Number: 10
Conditions: To be awarded annually to the top 10 students entering their second year of studies who have demonstrated excellence in the sciences and computer sciences areas.
Donor: Hewlett-Packard (Canada) Ltd.
Apply: By nomination from Faculty/Department.

The James McCrie Douglas Memorial Scholarship

Value: $800
Number: 2
Conditions: Awarded annually on the basis of academic standing and financial need to a student entering fourth year of an honors program.
Donor: Endowed by the late James McCrie Douglas of Edmonton.
Apply: Director of Student Awards by June 3.

The President's Scholarship

Field: Arts, Science and Law
Value: $1,500 each
Number: 3, one in each of the above faculties
Conditions: To be offered on the basis of high academic standing and financial need.
Donor: Endowed in 1943 by the late Mr. Justice H H Parlee.
Apply: Director of Student Awards by June 3.

The Frederick A Scherrer Bursaries

Field: Arts and Science
Value: $800 each
Number: 4, two in each of the above faculties
Conditions: To be offered on the basis of academic standing and financial need.
Donor: Endowed by the late Dr FA Scherrer.
Apply: Director of Student Awards by June 3.

The Spina Bifida Association of Northern Alberta Scholarship in Memory of Dr Peter Bowen

Field: Undergraduate program in any field in a postsecondary facility in Canada.
Value: $500 scholarship awarded annually
Number: 1
Qualifications: Applicants must be disabled with Spina Bifida, confirmed by a medical doctor; be a Canadian Citizen; be a resident of Alberta, north of Red Deer, for at least two years; be accepted in a postsecondary educational program in Canada.
Application: Candidates are required to submit a letter of reference from a previous teacher or administrator; academic transcripts from the last two years of study; and a letter from the candidate stating his or her eligibility, community activities and plans for the future.
Selection: Applicants will be judged on their motivation, maturity and academic background.
Information: The Spina Bifida Association of Northern Alberta, Scholarship Committee, Box 9501, Postal Station E, Edmonton, Alberta T6E 5X2 (403)479-9108.
Deadline: Applications must be sent to the above address by August 31.

The Sunwapta Broadcasting Limited Scholarship

Field: Communications as related to the broadcasting and television industry
Value: $200
Number: 1
Conditions: Open to students entering fourth year Electrical Engineering or Honors Physics, or entering third or fourth years in Arts who have an interest in journalism or script writing.
Donor: Dr GRA Rice.
Apply: Director of Student Awards by June 3.

Botany

The Henry Hearn Memorial Scholarship in Botany

Value: $700
Number: 1
Conditions: To be awarded annually on the basis of outstanding academic merit to a student entering the third or fourth year of the BSc Honors or Specialization Program in Botany.
Donor: The Estate of the late Henry George Hearn of Edmonton.
Apply: By nomination from Faculty/Department.

The JE Olsen Prize in Botany

Value: $35
Conditions: Offered to the graduating student in the Botany pattern who has achieved the highest average mark in two or more senior botany courses, provided that the student's general record is satisfactory to the Science Faculty Council.
Apply: By nomination from Faculty/Department.

The Organization of Botany Students Award

Field: Department of Botany
Value: $200
Number: 1
Conditions: Awarded annually to an undergraduate student in the Botany Honors or Specialization program. The award shall be based upon high academic standing, contribution to the Botany Department, and involvement in the activities of the Organization of Botany Students (OBS).
Donor: The Organization of Botany Students
Apply: The Selection Committee of the Organization of Botany Students by March 1.

Chemistry

The Gold Medal in Chemistry

Number: 1
Value: 24K Gold Medal, 30 grams
Conditions: To be awarded to the graduating student from the Honors or Specialization programs in Chemistry who has the highest average in courses credited towards the degree. Minimum required average is 8.0.
Donor: Alumni and faculty.
Apply: By nomination from Faculty/Department.

The Canadian Society for Chemistry Prize in Chemistry

Value: $50, a Medal and Certificate of Merit
Conditions: Awarded to the student who obtains the highest standing in the work of third year Honors Chemistry provided that such student's record is otherwise satisfactory to the Science Faculty Council.
Donor: The Canadian Society for Chemistry. The donor will provide the medal and certificate directly to the student.
Apply: By nomination from the Department of Chemistry.

The Dorch Brothers Scholarships

Field: Medicine, Chemistry, or Chemical Engineering
Value: $750 (Renewable for 2 years upon proof of satisfactory academic standing)
Number: 2
Conditions: Open to students whose homes are in the county of Vulcan and who have completed either the first year of Medicine or the second year of a BSc Program in Chemistry or Chemical Engineering. Selection will be on the basis of superior academic achievement and financial need.
Donor: Endowed by the late Peter Nelson Anderson as a memorial to his deceased brothers, John Frederick Marius Dorch, and Henry Sylvester Dorch.
Apply: Director of Student Awards by June 3.

The John Hooz Memorial Scholarship

Field: Chemistry

Value: $750
Number: 1
Conditions: To be awarded annually to a student of first class standing proceeding into the third year of Honors or Specialization Chemistry who, amongst the students who are not recipients of a major award, has the best average in the preceding year.
Donor: Family and friends of the late Professor John Hooz.
Apply: By nomination from the Department of Chemistry.

The Fred H Irwin Memorial Prize in Organic Chemistry

Value: $140 book prize
Conditions: Awarded to the student making the best record in Chemistry 451 and Chemistry 453
Donor: Mr and Mrs Leslie H Irwin in memory of their son, Flying Officer FH Irwin, who lost his life March 19, 1945, while on operations.
Apply: By nomination from Faculty/Department.

The Lehmann Prize in Chemistry

Value: $200 for books
Conditions: Awarded to the student making the best record in Chemistry 202, provided such student's record is otherwise satisfactory to the Faculty Council.
Donor: Estate of the late Dr ALF Lehmann, formerly Head of the Department.
Apply: By nomination from Faculty/Department.

The Herbert E Morris Scholarship in Chemistry

Value: $450
Conditions: To be awarded to a student of outstanding merit entering final year of the Honors Chemistry or Chemistry Specialization program.
Donor: Endowed by Mrs Morris in memory of her husband, a graduate of this University.
Apply: By nomination from Faculty/Department.

Computing Science

The Amdahl Academic Achievement Scholarships in Computing Science

Field: Computing Science
Value: $800
Number: 3
Conditions: To be awarded annually to the students of superior academic achievement who have completed their third year of studies, in the Computing Science specialization streams of Software Design, Business Applications, Computer Design, and Scientific Design and one in Computing Science Honors.
Donor: Endowed by Amdahl Limited.
Apply: By nomination from the Department of Computing Science.

The Canadian Information Processing Society Scholarship

Field: Computing Science
Value: $500 (will depend on accrued interest earnings)
Number: 1
Conditions: To be awarded annually on the basis of superior academic achievement to a student entering second, third, or fourth year of the Computing Science program.
Donor: Endowed by the Edmonton section of the Canadian Information Processing Society.
Apply: By nomination from Faculty/Department.

The Digital Equipment of Canada Prize

Field: Computer Engineering, Computing Science, or Mathematics
Value: $250
Number: 1
Conditions: To be awarded annually on the basis of superior academic achievement to a student entering the second, third, or fourth year of either a program in Computing Science, Mathematics, or Computer Engineering.
Donor: Digital Equipment of Canada Limited.
Apply: Director of Student Awards by June 3.

The Terence Holowach Memorial Prize

Field: Computing Science
Value: $500
Number: 1
Conditions: To be awarded annually to a student entering second, third, or fourth year of a a BSc program specializing in Computing Science. The recipient shall have demonstrated superior academic achievement in Mathematics, Physics, and Computing Science, a commitment to assisting his/her fellow students, and be a graduate of an Alberta High School.
Donor: Endowed by family and friends of Terence Holowach (class of '85).
Apply: By nomination from the Department of Computing Science.

The Barry J Mailloux Prize in Computing Science

Value: $750
Number: 1
Conditions: To be awarded to the student completing second or third year in a Computing Science Program (Honors or Specialization) having the highest academic standing and showing the greatest commitment to succeed.
Donor: Family and Friends of Barry J Mailloux.
Apply: By nomination from Faculty/Department.

The CIPS Donald B Scott Memorial Prize in Computing Science

Value: $500
Number: 1
Conditions: Offered annually to a student on entering fourth year of the program in Computing Science, on the basis of academic attainment and personal qualities of the individual.
Donor: The Edmonton section of the Canadian Information Processing Society.
Apply: By nomination from Faculty/Department.

Genetics

The Undergraduate Genetics Association Prize

Value: $100
Number: 1
Conditions: To be awarded annually to a student of superior academic standing in the graduating class in Honors or Specialization in Genetics.
Donor: Endowed by the Undergraduate Genetics Association.
Apply: By nomination of the Department of Genetics.

Geography

The Canadian Association of Geographers Book Prize

Conditions: Award is granted annually to the graduating student who has specialized in Geography and who has demonstrated the greatest proficiency in this subject. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The William C Wonders Medal in Geography

Field: Geography
Value: Silver medal and certificate
Number: 1
Conditions: Awarded annually to the graduating student who has shown the highest distinction in the Honors Geography program. Preference will be given to those in the BA program.
Donor: Endowed by the Department of Geography in recognition of Dr William C Wonders, founding head of the Department.
Apply: By nomination from the Department of Geography.

Alberta Geography Prizes

Value: $50
Number: 3
Conditions: Awarded (1) to the freshman student receiving the highest mark in Geography 230 and 231, (2) to the second year student who has shown the greatest proficiency in Geography, and (3) to the third year student who has shown the greatest proficiency in Geography. In all cases the student's work must be otherwise satisfactory.
Donor: Mr Donald C Lofquist, MA. The donor will provide the award directly to the student.
Apply: By nomination from Faculty/Department.

The JH Holloway Memorial Scholarship in Survey Science

Field: Geography (Survey Science)
Value: $1,500
Number: 1
Conditions: Offered annually to a student entering the fourth year in the Department of Geography, for outstanding academic merit in survey science.
Donor: The Alberta Land Surveyors' Association JH Holloway Scholarship Foundation.
Apply: By nomination from Faculty/Department.

The Roscoe Robinson Miller Scholarship

Field: Geography or English
Value: $650
Number: 1
Conditions: To be awarded annually on the basis of academic standing to a student entering third or fourth years Honors Geography or Honors English.
Donor: Bequeathed by the late Roscoe R Miller.
Apply: Director of Student Awards by June 3.

Geology

The APEGGA Medal in Geology

Field: Geology
Number: 1
Conditions: Awarded to the student graduating from either the general or honors program in Geology with the highest standing in the final year provided this is at least 7.5.
Donor: The Association of Professional Engineers, Geologists and Geophysicists of Alberta.
Apply: By nomination from the Department of Geology.

The William R Scott Memorial Prize in Economic Geology

Field: Economic geology
Value: $150 for books
Number: 1
Conditions: To be awarded annually to an outstanding graduating student on the basis of excellence in economic geology.
Donor: Endowed by friends of the late William R Scott.
Apply: By nomination from Faculty/Department.

The Alberta Energy Company Ltd Scholarships

Field: Petroleum Engineering, Economics, Geology
Value: $2,000 each
Number: 3 (one in each program)
Conditions: To be awarded annually on the basis of outstanding scholarship to Canadian Students or Permanent Residents who have completed the third year of studies in the four-year Honors or Specialization degree programs of Petroleum Engineering, Economics, or Geology.
Donor: The Alberta Energy Company Ltd.
Apply: By nomination from Faculty/Department.

The James Duncan Algar Memorial Scholarship in Geology

Field: Geology
Value: $200
Number: 1
Conditions: To be awarded annually on the basis of high academic standing and financial need to a student entering second year of the BSc program in Geology.
Donor: Mrs Verna Algar in memory of her late son.
Apply: Director of Student Awards by June 3.

Amoco Petroleum Geology Award

Field: Petroleum Geology
Value: Variable
Number: 1
Conditions: Awarded annually to a fourth year undergraduate student who has fulfilled the following requirements:

(1) enrolment in Geology 421, 424, 442 and two additional courses.

(2) attendance at a geological convention, symposium, workshop, or field trip related to petroleum geology.

(3) purchase of material related to geology (eg. books).

Donor: Endowed by Amoco Canada Petroleum Company Ltd.
Apply: Chair, Department of Geology in January. The student must submit a proposal outlining the intended use of the prize money, which is subject to approval by the award committee.

The APEGGA John A Allan Memorial Scholarship in Geology

Value: $1,000
Conditions: Offered annually to a student who obtains the highest standing in all the prescribed courses of first year Geology.
Donor: The Association of Professional Engineers, Geologists and Geophysicists of Alberta in memory of Professor John A Allan.
Apply: By nomination from Faculty/Department.

The Paul Bains, Gerry Groves (Undergraduate Thesis) Memorial Award

Conditions: An award is to be presented annually in memory of Mr Paul Bains and Mr Gerry Groves, who both had one term remaining to complete their BSc Degree. This award will be presented to the student in the Department of Geology who submits the best undergraduate thesis – Geology 507 and/or Geology 508. Where possible the award, a personal plaque, will be presented at Spring Convocation. In addition the recipient's name will be recorded on a larger plaque in the Geology Building. Undergraduate theses of acceptable quality should be submitted to the Department of Geology Chair by the supervisor. The deadline for submission will be set by the Department of Geology. The award may be withheld if the selection committee decides that no papers of sufficient quality have been submitted.

The Gurharpal Singh Bains Memorial Scholarship in Geology

Field: Geology
Value: $600
Number: 1

Conditions: To be awarded annually to a student of outstanding academic merit entering fourth year of the BSc Honors or BSc Specialization in Geology Programs.
Donor: Mr Gurdev Singh Bains, in memory of his late son who was a student of Geology at the time of his death.
Apply: By nomination from Faculty/Department.

The Cactus Drilling Corp Ltd Bursary

Field: Geology or Engineering
Value: $500
Conditions: Offered to a student entering final year of the general or honors program in Geology or final year Engineering on the basis of academic standing, financial need and contribution to extracurricular student activities.
Apply: Director of Student Awards by June 3.

The Dr Neil Campbell Memorial Scholarship

Value: Tuition and fees
Number: 1
Conditions: Offered annually on the basis of academic attainment to a student entering the fourth year of Honors Geology.
Donor: Friends of the late Dr Neil Campbell.
Apply: By nomination from Faculty/Department.

The Canadian Occidental Petroleum Ltd. Scholarship

Field: Geology, Engineering or Geophysics
Value: $1,000
Conditions: Offered annually to a student entering fourth year in Honors Geology, Engineering or Geophysics who has indicated an interest in the petroleum Field. Basis of award will be academic standing and financial need.
Apply: Director of Student Awards by June 3.

The Chevron Canada Resources Limited Scholarship in Geology

Value: $1,000
Conditions: Offered to a student of outstanding merit entering the final year of Honors Geology who is interested in oil exploration or production.
Donor: Chevron Canada Resources Limited.
Apply: By nomination from Faculty/Department.

Cominco Limited Scholarships in Engineering and Geology

Field: Mining Engineering, Metallurgical Engineering, Chemical Engineering, Geological Engineering, and Honors Geology
Value: $4,000 (2,000 per year for two years)
Number: 1
Conditions: Awarded annually to a student entering the final two years of a program in Mining Engineering, Chemical Engineering, Metallurgical Engineering, Engineering Geology, and Honors Geology. The scholarship will be awarded to a student who has demonstrated a sincere interest in the mining, chemical or metallurgical industries, shows qualities of leadership and engineering promise, is in the upper half of the class, and is eligible to work in Canada. The award will be renewed if the student maintains satisfactory standing.
Donor: Cominco Limited, Vancouver, BC.
Apply: Director of Student Awards by June 3.

The Walter A Crawford Memorial Bursary in Geology

Field: Geology
Number: 1
Value: $1,500
Conditions: Awarded annually on the basis of superior academic standing and financial need to a student entering second year at the University of Alberta in the Faculty of Science, majoring in Geology.
Donor: Endowed through the will of the late Walter A Crawford of Edmonton.
Apply: Director of Student Awards by June 3.

The Bill Elder Scholarships in Geology

Value: $1,000
Number: 2
Conditions: Offered on the basis of academic standing and financial need at the end of the first, second, or third years of either the Honors or Specialization in Geology programs.
Donor: Anonymous.
Apply: By nomination from Faculty/Department.

The VH Hunter Memorial Award in Geology

Field: Geology
Value: Approx. $1,500
Number: 1
Conditions: Awarded annually to a student entering either the third or fourth year of Geology on the basis of academic achievement, qualities of scholarship, leadership, career goals and demonstrated interest and previous experience in the field of Geology.
Donor: Endowed by Mr Donald Hunter in memory of his father, the late VH Hunter.
Apply: Nominated by the Department of Geology.

The Norcen Energy Resources Scholarships

Field: Geology, Geophysics, Engineering, Mechanical Engineering, and Chemical Engineering
Value: $1,500
Number: Ten distributed as follows: two in Chemical Engineering, two in Mechanical Engineering, one in Geology, one in Geophysics, and four in Petroleum Engineering (two for co-op students, and two for non co-op students).
Conditions: Offered annually to undergraduate students proceeding to either the 2nd, 3rd or 4th year of full-time studies in either chemical engineering, geophysics, geology, petroleum engineering or mechanical engineering. Selection will be on the basis of superior academic achievement with consideration given to community involvement, extra-curricular activities, and demonstrated leadership potential. In the case of a tie, the final decision will be based on financial need. Recipient must be a Canadian Citizen or Permanent Resident.
Donor: Norcen Energy Resources Limited.
Apply: By nomination from the department.

The Thomas Payne Memorial Prize in Economic Geology

Value: $200
Conditions: Offered annually to the student obtaining the highest standing in Geology 532, provided that the student obtains a grade of at least 7 in that subject and has been registered in a full program.
Donor: Endowed by the family and friends of the late Mr Payne.
Apply: By nomination from Faculty/Department.

The Suncor Inc Scholarship in Geology

Value: $1,000
Conditions: To be awarded to the student in the Honors or Specialization program in Geology who has the highest standing at the end of the second year of the program. The award is renewable for a second year, subject to satisfactory academic standing, and a new award will, therefore, normally be made only every other year.
Donor: Suncor Inc, Calgary.
Apply: By nomination from Faculty/Department.

The PS Warren Prize in Geology

Value: $300
Conditions: Awarded to a non-graduating student for receiving the highest final mark in Introductory Geology in the year preceding the award, and who shows a continuing interest in pursuing earth science as a career by registering in at least one geology course at the second or higher year level.
Donor: Endowed by former students and friends, and the Edmonton Geological Society.
Apply: By nomination from Faculty/Department.

The PS Warren Memorial Prize in Earth History

Value: $750
Conditions: To be awarded annually to a non-graduating student either in Honors Geology or majoring in Geology, for outstanding achievement in the field of Earth History.
Donor: Endowed by Mrs RB Ferguson of Winnipeg and Mrs JE Campbell of Edmonton, in memory of their father, Dr PS Warren, former Head of the Department of Geology, whose particular interest was in the study of Earth History.
Apply: By nomination from Faculty/Department.

The Barry Way Scholarships in Geology

Field: Geology
Value: $500
Number: 2
Conditions: To be awarded annually to mature students entering their senior year of the Honors or Specialization BSc programs in Geology on the basis of satisfactory academic performance.
Where tenable: University of Alberta
Donor: Mr Barry Way.
Apply: By nomination from Faculty/Department.

The Michael Woollett Scholarship

Field: Geology
Value: $500
Number: 1
Conditions: To be awarded annually to a student entering the second, third, or fourth year of a BSc program in Geology, on the basis of superior academic achievement, extracurricular activities and who has expressed an interest in mining or minerals.
Donor: Endowed by Echo Bay Mines Ltd. in memory of Michael H Woollett.
Apply: Chair, Department of Geology by October 1.

The Michael Woollett Memorial Scholarship

Field: Geology
Value: Variable
Number: 1
Conditions: To be awarded annually to a full-time student entering fourth year of a BSc Honors or Specialization program on the basis of superior academic achievement (including geology field schools) and participation in student activities.
Donor: Endowed by family, friends, Trigg, Woollett, Olson Consulting Ltd, and the PS Warren Society in memory of the late Michael H Woollett.
Apply: By nomination from the Department of Geology.

Mathematics

The JW Campbell Memorial Prize in Mathematics

Value: $150
Conditions: Awarded annually to a student of outstanding merit in Mathematics 207 and 208, provided that the student's record is otherwise satisfactory to the Faculty Council.
Donor: Endowed by Mrs JW Campbell in memory of her husband, former Head of the Department of Mathematics.
Apply: By nomination from Faculty/Department.

The Digital Equipment of Canada Prize

Field: Computer Engineering, Computing Science, or Mathematics
Value: $250
Number: 1
Conditions: To be awarded annually on the basis of superior academic achievement to a student entering the second, third, or fourth year of either a program in Computing Science, Mathematics, or Computer Engineering.
Donor: Digital Equipment of Canada Limited.
Apply: Director of Student Awards by June 3.

The Murray Thomas Gibson Memorial Scholarships in Mathematics

Field: Mathematics
Value: $1,000 to $2,000
Number: At least 4
Conditions: To be awarded annually to students in the Honors Mathematics program at the University of Alberta based on superior academic achievement.
Donor: Bequested by the late Robert Nelson Gibson, former student in the department of Mathematics in memory of his father, Murray Thomas Gibson.
Apply: By nomination from the Department of Mathematics after consideration of recommendation from the Honors Committee of the Department.

The IP Sharp Associates Limited Scholarship

Field: Computing Science and Mathematics
Value: $1,000
Number: 1
Conditions: To be awarded annually to a student of outstanding academic merit entering the third year of a program in Computing Science or Mathematics with some experience in software development. Selection will be based on performance in courses in Computing Science and Mathematics, provided that the student's overall academic record is otherwise satisfactory. There is the possibility of employment with the donor firm during the summer after the year in which the award is made.
Donor: IP Sharp Associates Limited.
Apply: By nomination (in alternating years) from the Departments of Computing Science and Mathematics.

The Ernest Wilson Sheldon Memorial Prize in Mathematics

Value: $300
Conditions: Awarded to a student of outstanding merit completing third year of the Honors program in Mathematics. The award will be based on performance in the mathematics courses of the third year.
Donor: Endowed by Mrs Sheldon in memory of the late Dr EW Sheldon, Professor Emeritus of Mathematics.
Apply: By nomination from Faculty/Department.

The Mathukumalli Venkata Subbamma Prize

Field: Mathematics
Value: $400
Number: 1
Conditions: To be awarded annually to an undergraduate student who has shown outstanding academic ability in Number Theory, as judged by the performance in at least one Number Theory course, and whose academic record is otherwise satisfactory.
Donor: Endowed by the Dr MV Subbarao family in honor of the memory of the late Mathukumalli Venkata Subbamma of Edmonton.
Apply: By nomination from Faculty/Department.

The Cyril G Wates Memorial Prize

Field: Mathematics
Value: $100
Number: 1
Conditions: Awarded annually to a student of outstanding academic merit in Math 281 and 282 provided that the

student's record is otherwise satisfactory to the Faculty Council.
Donor: Endowed by the late Helen Alida Burns Wates.
Apply: By nomination from Faculty/Department.

The Cyril G Wates Memorial Scholarship

Field: Mathematics
Value: $300
Number: 1
Conditions: To be awarded annually to a student of outstanding academic merit completing the second year of the Honors program in Mathematics. The award will be based on performance in the mathematics courses of the second year.
Donor: Endowed by the late Helen Alida Burns Wates
Apply: By nomination from Faculty/Department.

Physics

The APEGGA Medal in Geophysics

Field: Geophysics
Number: 1
Conditions: Offered to a student with the highest standing in the final year of Geophysics, provided that grade-point average of at least 7.5 is attained.
Donor: The Association of Professional Engineers, Geologists and Geophysicists of Alberta.
Apply: By nomination from the Department of Geophysics.

The Louis S Crosby Memorial Gold Medal in Physics

Conditions: Awarded annually to a fourth year Honors Physics (Pure Physics program) student obtaining the highest overall standing, provided that the student has carried a full year's work and obtained a grade point average of at least 7.5 in each year.
Donor: The family of the late Mr Crosby.
Apply: By nomination from Faculty/Department.

The JA Jacobs Prize in Geophysics

Value: $250
Number: 1
Conditions: To be awarded annually to the student obtaining the highest standing in the final year of the Geophysics Specialization program.
Donor: ESEC Consultants of St Albert to recognize the achievements of Dr Jack Jacobs, former Killam Professor at the University of Alberta, and currently a Professor in the Department of Earth Sciences, the University of Cambridge.
Apply: By nomination from Faculty/Department.

The JA Jacobs Prize in Physics

Value: $250
Number: 1
Conditions: To be awarded annually to the student obtaining the highest standing in the final year of the Physics Specialization program.
Donor: ESEC Consultants of St Albert to recognize the achievement of Dr Jack Jacobs, former Killam Professor at the University of Alberta, and currently a Professor in the Department of Earth Sciences, the University of Cambridge.
Apply: By nomination from Faculty/Department.

The APEGGA Scholarship in Geophysics

Value: $1,000
Conditions: Offered annually to a student of outstanding merit entering the third or fourth year of Honors Geophysics or Specialization in Geophysics.
Donor: The Association of Professional Engineers, Geologists and Geophysicists of Alberta.
Apply: By nomination from Faculty/Department.

The Canadian Occidental Petroleum Ltd. Scholarship

Field: Geology, Engineering or Geophysics
Value: $1,000
Conditions: Offered annually to a student entering fourth year in Honors Geology, Engineering or Geophysics who has indicated an interest in the petroleum field. Basis of award will be academic standing.
Apply: Director of Student Awards by June 3.

The Norcen Energy Resources Scholarships

Field: Geology, Geophysics, Engineering, Mechanical Engineering, and Chemical Engineering
Value: $1,500
Number: Ten distributed as follows: two in Chemical Engineering, two in Mechanical Engineering, one in Geology, one in Geophysics, and four in Petroleum Engineering (two for co-op students, and two for non co-op students).
Conditions: Offered annually to undergraduate students proceeding to either the 2nd, 3rd or 4th year of full-time studies in either chemical engineering, geophysics, geology, petroleum engineering or mechanical engineering. Selection will be on the basis of superior academic achievement with consideration given to community involvement, extra-curricular activities, and demonstrated leadership potential. In the case of a tie, the final decision will be based on financial need. Recipient must be a Canadian Citizen or Permanent Resident.
Donor: Norcen Energy Resources Limited.
Apply: By nomination from the department.

The Jane-Ann Robertson Memorial Scholarship in Physics

Value: $500
Number: 1
Conditions: To be awarded annually on the basis of outstanding merit to a student entering the second year of the Honors Physics program. Consideration will be given to the personal qualities of the individual. Recipients must be Canadian Citizens.
Donor: The family and friends of the late Jane-Ann Robertson.
Apply: By nomination from Faculty/Department.

The Douglas M Sheppard Memorial Scholarships

Field: Physics
Value: $500
Number: 3
Conditions: Offered annually to students of superior academic achievement proceeding to each of the second, third and fourth years of full-time undergraduate studies in Physics Specialization.
Donor: Endowed by the colleagues, family and friends of the late Douglas M Sheppard, Professor of Physics.
Apply: By nomination from the Department.

The Vega Scholarship for Astronomy

Field: Astronomy or Astrophysics
Value: $500
Number: 1 (or 2 at $250 each)
Conditions: To be awarded annually to a student(s) achieving high academic standing in various Astronomy or Astrophysics courses.
Donor: Endowed by Helen Tkachenko.
Apply: Nominations for this award will be made by the Department of Physics Revision Committee.

Psychology

See under the Department of Psychology in the Faculty of Arts.

Zoology

The William Rowan Memorial Prize

Value: $500 each
Number: 2
Conditions: Offered annually to a student of outstanding merit entering fourth year of the Honors Zoology program.
Donor: Endowed by friends of the late Dr Rowan, former Head of the Department.
Apply: By nomination from Faculty/Department.

The Max and Marjorie Ward Scholarship

Field: Wildlife Biology and Entomology of the North
Value: $1,000
Number: 2
Conditions: Open to graduate and undergraduate students working in the field of wildlife biology and entomology of the north; to be used in support of summer research. When conditions warrant the same student can have both awards, totalling $2,000.
Donor: Endowed by friends of Max and Marjorie Ward.
Apply: Chair, Department of Zoology or Entomology by April 1.

223.18.2 Awards By Other Sources

Pope John Paul II Commemorative Scholarships

Field: (a) native studies or (b) international studies with respect to third world countries, or (c) ecumenical studies
Value: $10,000 at the Masters level, $5,000 at the Undergraduate level
Number: 4 at the Masters level, 2 at the Undergraduate level
Conditions: These scholarships were established in honor of the visit of his Holiness, Pope John Paul II, to Alberta in September of 1984. Applicants must be enrolled full-time at a postsecondary institution in Alberta at either the undergraduate or master's level.
Donor: Government of Alberta.
Apply: Director of Awards, Students Finance Board, 10th Floor, Baker Centre, 10025 - 106 Street, Edmonton, Alberta, T5J 1G7.
Deadline: Master level - February 1 and Undergraduate level - July 1.

The Society of Exploration Geophysicists Scholarships

Field: Geophysics
Value: $500 each
Number: 4 for Canada
Conditions: Open to Canadian students majoring in Geophysics. The awards will be based on academic standing and financial need and are open to matriculants, undergraduates or graduate students.
Where tenable: Any university in Canada.
Apply: Application forms may be secured from Canadian Society of Exploration Geophysicists Scholarship Sub-Committee, P.O. Box 117, Calgary, Alberta and should be returned completed to the same address by March 15.

224 Awards in the Faculty of Graduate Studies and Research

224.1 General Information

Regulations Governing Graduate Awards

Scholarships, Fellowships, Bursaries, and Prizes

The following regulations apply to holders of scholarships, fellowships, bursaries, and prizes (known as "awards").

If an agency administering an award has published regulations which disagree with any of the regulations outlined herein, then the regulations of the agency shall take precedence.

Major Versus Minor Awards

For the purposes of these regulations, a major award is considered to be one valued at a minimum of $6,000 over an 8-month period or a minimum of $9,000 over a 12-month award period (or the equivalent for other award periods). A minor award is one valued at less than a major award.

Conditions of Appointment and Acceptance

Dissertation Fellowship Holders

A student awarded a Dissertation Fellowship is not eligible for any further assistance from scholarship or assistantship funds after the conclusion of the 12-month tenure.

Income Tax

Scholarships, fellowships, bursaries, prizes, and so on, are subject to income tax and must be reported as income. For some major awards tax deductions may be made at the source. There is an exemption of up to $500 allowed against the aggregate of such income for the individual.

Acceptance of Multiple Awards

A student holding a major award from any source may hold additional awards totaling not more than $6,000 for 8 months or $9,000 over 12 months from sources administered by the University.

Acceptance of Awards by Full-time GA's

Full-time graduate assistants (GA's) may accept awards from sources administered by the University of not more than $6,000 in an 8-month period or $9,000 over a 12-month period.

Duties and Responsibilities

The University of Alberta recognizes that awards are given to students to enable them to carry out scholarly activities. The University and the department therefore have a responsibility not to encumber an award-holder with other duties to the extent that he or she may not devote ample time to creative scholarship.

Acceptance of Other Remunerative Assignments

Holders of Dissertation Fellowships may not accept any other remuneration for University or departmental duties. All other major award holders may accept a teaching or other remunerative assignment involving no more than 200 hours during the 12-month academic year commencing September 1. (Two hundred hours is the equivalent of a 6 hour-per-week assignment for the academic session, September to April, a 12 hour-per-week assignment during any 4-month term or 4 hour-per-week assignment during any 12-month assignment.)

Notwithstanding the above, holders of major awards must not be prohibited from matching the income of a full GA by combining a part-time GA (where applicable) with a major award, provided that this is allowed under the donor agency regulations.

Termination of Awards

Recipients who are able to complete their program in less than 12 months are expected to do so. If you complete your program in a period shorter than 12 months, the award will be terminated in a period not exceeding one month from the date of successful completion of the final oral examination. Written request for extension beyond one month must be submitted to the Secretary, Graduate Scholarship Committee, Office of Student Awards by the Department Chair for review by the Graduate Scholarship Committee.

Awards will be terminated on a prorated basis from the date you cease to be a full-time student if the recipient withdraws or is required to withdraw from his/her program.

You must notify the Office of Student Awards, in

writing, immediately following the successful completion of your final oral examination, or upon submission of your completed project or immediately following the termination of your program.

Office of Student Awards
252 Athabasca Hall
University of Alberta
Edmonton, Alberta
T6G 2E8
(403) 492-3221

The following Scholarships and Fellowships are awarded primarily on the basis of academic standing. In general, awards are usually made only to applicants whose previous academic standing is First Class. Students admitted to a "Qualifying year" are not eligible for scholarships or fellowships.

Unless otherwise stated, awards are for one year only, but application for renewal will be considered in open competition. No award will be made to other than a full-time student. Unless otherwise stated, awards are tenable only at the University of Alberta.

In order that awards may be equitably distributed, no student may hold more than one award in a given year. A major award is defined generally as a minimum of $6,000 payable over eight months or $9,000 for twelve months. A student holding a major award from any source may hold additional awards totalling not more than $6,000 for 8 months or $9,000 for 12 months from sources administered by the University.

Major award holders may accept a teaching or other remunerative assignment involving no more than 200 hours during the 12 month academic year commencing September 1. (200 hours is the equivalent of a 6-hour per week assignment for the academic session, September to April, or 12 hours per week during any 4-month term.) Notwithstanding the above, holders of major awards must not be prohibited from matching the income of a full G.Ap. by combining a part G.Ap. (where applicable with a major award, provided that this is allowed under the donor agency regulations). A student who is awarded a Dissertation Fellowship may not be given any departmental duties during the period of tenure of the fellowship. Recipients of twelve month awards are expected to maintain full-time student status and to carry out a full-time research project during the Interssion, or to take a sufficient number of courses during the Interssion to maintain full-time student status.

Holders of awards must pay regular tuition fees unless otherwise stated.

All Fellowships, Scholarships, Assistantships, etc., are subject to Canadian Income Tax.

224.2 Awards

The Alberta Art Foundation Graduate Scholarships in the Department of Art and Design

Field: Painting, Printmaking, or Sculpture in the Department of Art and Design
Value: $5,000
Number: 3
Conditions: To be awarded to a student entering the second year of the MVA program in Art and Design (painting, printmaking, or sculpture) on the basis of high academic merit in the first year of the graduate program. Each April, the Graduate Program Committee of the Department of Art and Design will select a maximum of two nominees from the painting area, two from printmaking, and two from sculpture for the scholarship(s). A committee of three will then be struck by the Dean of the Faculty of Graduate Studies and Research to select the successful candidate(s) from the list of nominees put forward by the Graduate Programs Committee. Scholarships will be awarded only if the committee believes that nominees are meritorious of such an award.
Donor: Endowed by the Alberta Art Foundation.
Apply: To the Department of Art and Design.

Alberta Heritage Medical Research Studentships

The Alberta Heritage Foundation for Medical Research, in carrying out its objective of advancement of medical research in Alberta, has developed a program of Medical Research Studentships to assist young scholars in the pursuit of a research career. The Foundation offers three types of studentships – one year, part-time, and summer studentships.

Application forms and descriptive brochures are available from the Foundation, Research Services, or the Faculty of Medicine.

The Alberta Horticultural Association Maureen White Memorial Scholarship in Horticulture

Field: Plant Science (Horticulture)
Value: $500
Number: 1
Conditions: To be awarded annually to a student of outstanding merit registered in a graduate program related to horticulture in the Department of Plant Science.
Donor: The Alberta Horticultural Association in memory of Maureen White, the first woman President of the Association, and recipient of the Association's highest award, the Centennial Gold Medal presented to individuals for their outstanding contributions to horticulture in Alberta.
Apply: By nomination of the Department on the recommendation of the Horticulture staff.

The Alberta Research Council (Karl A Clark Memorial) Scholarship

Field: Research areas of interest to the Alberta Research Council, such as energy resources and their utilization; geological soil; and water resources; chemical and biological processing; transportation and industrial development; technical and economic evaluations.
Value: $11,600
Conditions: Offered annually to a graduate student engaged in thesis research at the Master or Ph.D. level in engineering, natural sciences, economics or business. Awarded for one year; a student may apply in open competition for a subsequent year's award.
Donor: The Alberta Research Council
Apply: Director of Student Awards by February 1.

The Alberta Society For Computers in Education Scholarship in Educational Computing

Field: Education
Value: $1,000
Number: 1
Conditions: To be awarded to a student registered in a graduate program and who has completed at least 2 full courses at the graduate level. The award will be based on academic standing, and when appropriate, upon progress in a research or thesis project, and any other contributions, including activities in the field, related to the effective educational uses of computers.
Donor: Endowed by the Alberta Society for Computers in Education.
Apply: Candidates should complete application forms available through the Department of Educational Psychology, and return their application with a copy of their academic transcript, supporting information, and references by June 3.

The Alberta Sugar Company Scholarship

Field: Agriculture
Value: $500
Conditions: Preference given to research related to irrigation farming.
Apply: Director of Student Awards by February 1.

AMOCO Canada Graduate Fellowship in Geology

Field of Study: Geology (MSc or PhD program)
Value: $10,000 per annum
Number: 1
Conditions: To be awarded for a two-year term to a graduate student of outstanding merit who is an enrolled candidate in the graduate study program leading to a Master of Science or Doctor of Philosophy degree in Geology. The thesis topic and related coursework must have application to the petroleum industry and will typically be in the fields of stratigraphy, sedimentology, paleontology, structural geology, and geochemistry.
Donor: Amoco Canada Petroleum Company Limited
Apply: A single candidate normally will be nominated by the Faculty/Department. For multiple nominations of equal merit, Amoco Canada Petroleum will normally choose one candidate who will then be informed by the Faculty/Department.

AOSTRA Doctoral Scholarships

Field: Development of the Oil Sands
Value: $12,000
Number: Variable
Conditions: To be awarded to outstanding students registered in, or admissable to, graduate programs in fields of research related to the development of the oil sands in Alberta. There is a small research allowance connected with the award. The award may be renewed for a second year. These awards are restricted to persons who are Canadian Citizens or Landed Immigrants at the time of application.
Donor: Alberta Oil Sands Technology and Research Authority.
Apply: Director of Student Awards by February 15 for awards tenable May 1 or September 1, and September 1 for awards tenable on January 1 of the next year. If a suitable candidate is not available in any one year, the award will not be given.

Violet Archer Graduate Scholarship in Musical Composition

Field: Music
Value: Variable
Number: Variable
Conditions: Graduate students in the Master of Music (Composition) program with a minimum of 7.5 GPA in music courses showing outstanding quality of compositions in a submitted portfolio consisting of a number of words. If no suitable candidate is available in any one year, the award will not be given.
Donor: Endowed by Dr Violet Archer, Professor Emerita, member of the Department of Music staff, 1962 through 1978.
Apply: To the Department of Music Chair by April 1.

The ATRC Telecommunications Research Graduate Fellowship

Field: Development of engineering applications in telecommunications through disciplines of engineering, computing sciences and other fields
Value: $6,000 per annum, renewal for 1 year for MSc and 2 years for PhD with years 2 and 3 subject to: proof of continued superior academic performance, renewal of major international, national or provincial award and, advancement in research endeavour
Number: Variable
Conditions: Awarded to individuals receiving a major international, national or provincial award where superior academic achievement is the primary selection criterion. Candidates must undertake their research work towards a masters degree or PhD at ATRC.
Donor: The Alberta Telecommunications Research Centre (ATRC) has established this award to promote, and advance technological innovations in the telecommunications field by joint participation between academic and industrial researchers.
Apply: Mr WL Olsen of the Alta Telecommunications Research Centre, #200, 4245 - 97 St., Edmonton, Alberta T6E 5Y4.

The ATRC Telecommunications Research Graduate Scholarship

Field: Development of engineering applications in telecommunications through disciplines of engineering, computing sciences and other fields
Value: $12,000 per annum, renewable for 1 year for MSc and 2 years for PhD Renewals are subject to proof of continued superior academic and research performance
Number: Variable
Conditions: Awarded to individuals not receiving international, national, provincial or university scholarships. Open to international students and Canadians. Candidates must undertake their research work towards a master's degree or PhD at ATRC.
Donor: The Alberta Telecommunications Research Centre (ATRC) has established this award to promote, and advance technological innovations in the telecommunications field by joint participation between academic and industrial researchers.
Apply: Mr WL Olsen of the Alta Telecommunications Research Centre, #200, 4245 - 97 Street, Edmonton, Alberta T6E 5Y4.

The Bernard Greer Aylen Scholarship

Field: Masters in Business Administration
Value: $500
Number: 1
Conditions: To be awarded annually to a student in the final year of an MBA program on the basis of academic merit (a 7.5 GPA or above) and demonstrated strength in the two accounting core courses, and who has illustrated strong leadership traits and character by participation in extracurricular and community activities.
Donor: Endowed by Mrs Elizabeth Aylen of Edmonton, Alberta.
Apply: Candidate to be nominated by the Faculty of Business (Associate Dean - MBA program).

Doris Badir Fellowship in Child Development

Field: Child Development
Value: $1,000
Number: 1
Conditions: To be awarded to a full-time graduate student in the Faculty of Home Economics who has outstanding academic potential. The student must be involved in or planning to conduct a research study with an emphasis on the child/youth and his/her interactions within family or family-like settings and must intend to begin/continue the proposed research during the next academic term.
Donor: Endowed by the D Badir Fund.
Apply: Applicants must submit their application and a copy of a 5-page research proposal by March 15 to the Dean of Home Economics.

The Beryl Barns Memorial Graduate Awards

Field: Music
Value: Variable up to a max of $10,000
Number: Variable
Conditions: Students enrolled full-time in MMus or DMus in practical studies (keyboard instruments, orchestral instruments, voice) or in music composition. A grade point average of 7.0 in Music courses will be expected in

each year that the award is held. Awarded for a single year but renewable to a maximum of two years at the Master's level, and three years at the Doctoral level pending success in the annual Beryl Barns Memorial Awards competition.
Where Tenable: University of Alberta
Donor: Endowed by the late Beryl Barns.
Apply: By April 1 to the Department of Music. Candidates will be screened through audition, interview, and submission of portfolio (composers). MMus applicants in performance from outside of Alberta will not be required to appear for in-person audition and interview. All DMus applicants must audition in person.

HE Bell Scholarship

Field: Pathology, Medicine, Health Services Administration, other related fields
Value: $1,000
Number: 1
Conditions: Awarded annually to a full-time graduate student who is a graduate from the BSc (MLS) program at the University of Alberta. Students registered in graduate school for more than 1 year are not eligible. A GPA of 7.5 or higher in the final year of the undergraduate degree is required. Student must be doing graduate studies in one of the following areas: Pathology, other areas of Science or Medicine, Health Services Administration, MD program, or other related fields.
Donor: Endowed by MLS Alumni and friends of Dr HE Bell.
Apply: By October 1 to the Division of Medical Laboratory Science, B-117 Clinical Science Building.

The D Alan Birdsall Memorial Scholarship

Field: Fish Management/Ecology
Value: Approximately $4000
Number: 1
Conditions: To be awarded on the basis of academic merit, leadership qualities and community mindedness to a student registered in or admissible to a full-time thesis program leading to a master's or a doctoral degree, or a postdoctoral fellow at the University of Alberta.
Donor: Endowed by the Alberta Society of Professional Biologists.
Apply: By letter to the Chair, Department of Zoology, University of Alberta, by January 31st.

SM Blair Scholarship

Field: Agriculture
Value: $7,000, plus $3,000 research allowance (under review)
Number: 1
Conditions: Awarded to a graduate student of outstanding academic merit interested in pursuing work in general northern research that would lead to increased protein production and greater self-reliance for food requirements in the Canadian North. Granted initially for two years (subject to review after the first year) the scholarship may be renewed for up to one further year. Tenure to begin September 1.
Donor: Endowed by the SM Blair Family Foundation.
Apply: By nomination from the Dean's Office, Faculty of Agriculture and Forestry.

The Eugene Brody Graduate Scholarship

Field: Geography
Value: Variable ~ $1,500
Number: 1
Conditions: To be awarded annually to the Masters level graduate student who has achieved the highest grade point average on the normal graduate level course load taken in the first year of the graduate program in Geography.
Donor: Endowed by the late Eugene Brody.
Apply: By nomination from Faculty/Department.

The Margaret (Peg) Brown Awards in Environmental Studies and Wildlife Resources

Field: Environmental Studies
Value: Variable
Number: 1
Conditions: To be awarded annually to a graduate student in the Faculty of Agriculture and Forestry whose academic interest and/or research interest is in the area of wildlife conservation and environmental studies. Selection will be made on the basis of superior academic achievement and research potential. Recipients should be Canadian Citizens or Permanent Residents. Preference will be given to individuals who have resided in western Canada and are in financial need.
Donor: Endowed by Mrs Margaret (Peg) Brown.
Apply: By nomination from the Faculty of Agriculture and Forestry.

The WS Buchanan Scholarship

Field: History or English
Value: $500
Conditions: Awarded alternately in the Department of History and the Department of English to a graduate student of outstanding merit.
Donor: Mr WS Buchanan, Winnipeg.
Apply: On nomination of Department.

Camrose Normal School Memorial Scholarship in History of Education

Field: Graduate Studies in the History of Education in Western Canada
Value: Minimum of $500
Number: 1
Conditions: To be awarded annually to a full-time student of outstanding merit in the second year of the Faculty of Education, graduate studies in the thesis route in the field of History of Education in Western Canada. Selection will be made on the basis of a combination of academic standing, research potential, and innovation of proposed research as determined by a departmental selection committee.
Donor: Graduates and friends of Camrose Normal School, City of Camrose.
Apply: By nomination from the Department of Educational Foundations.

The Chair's Prize for Research

Field: Psychiatry
Value: $400
Number: 1
Conditions: Offered annually to reward outstanding accomplishments in research during psychiatric residency training. No particular field of endeavour receives preference over another, the emphasis of the award being on originality, initiative, and a demonstrated capacity to carry plans through to completion.
Donor: Department of Psychiatry
Apply: By nomination from the Department of Psychiatry.

Chevron Graduate Scholarships in Natural Gas Engineering

Field: Engineering
Value: Variable. (The value of the award will increase according to interest earned on the endowment)
Number: 1
Conditions: To be awarded annually to an engineering student registered in the Faculty of Graduate Studies and Research and engaged in research involving the production, processing, or utilization of natural gas.
Donor: Endowed by Chevron Canada Resources.
Apply: By nomination from the Faculty of Engineering.

The Chinese Graduates Association of Alberta Graduate Scholarship

Field: Open
Value: Variable
Number: 1
Conditions: To be awarded annually to a graduate student on the basis of superior academic achievement and whose thesis or research is in the area of Chinese Studies which helps in promoting a better understanding of the Chinese people.
Donor: Endowed by the Chinese Graduates Association of Alberta.
Apply: By application to the Office of Student Awards.
Deadline: February 1.

The Alexis Chomicki Memorial Scholarship

Field: Educational Psychology (Multiple/Dependent Handicapped Program)
Value: $600
Number: 1
Conditions: To be awarded on an annual basis to a student who is enrolled in the Multiple/Dependent Handicapped Program, and has completed at least 5 half courses (one of which is a practicum). The basis for selection will be high academic standing combined with an enduring dedication to the education of the dependent handicapped child. Preference will be given to Canadian Citizens.
Donor: Endowed by the parents, family and friends of Alexis Chomicki.
Apply: By application to the Department of Educational Psychology.

Sarah Nettie Christie Graduate Entrance Scholarships

Field: English
Value: $2,000
Number: 2
Conditions: Both to be awarded annually to students entering the graduate program in English at the University of Alberta, one to the student with the highest average in senior English courses among the graduating students in Honors English at the University of Alberta who are entering the MA program, and the other to the student with the highest average in senior English courses among those graduating with a non-honors BA in English at the University of Alberta and entering the MA or qualifying year program.
Donor: Endowed by Norma Bell Christie, BA 1935, in memory of her mother, Sarah Nettie Christie.
Apply: By June 3 to the Department of English.

Sarah Nettie Christie Graduate Travel Bursary

Field: English
Value: $500
Number: 1
Conditions: Awarded to a graduate student in the Department of English at the University of Alberta who is presenting a paper at scholarly conferences or who needs to consult archives elsewhere.
Donor: Endowed by Norma Bell Christie, BA 1935, in memory of her mother, Sarah Nettie Christie.
Apply: Nominated by the Department of English; eligible students should direct inquiries to The Chair, Graduate Committee, Department of English.

Sarah Nettie Christie MA Scholarship

Field: English
Value: $8,000
Number: 1
Conditions: To be awarded on the basis of superior academic achievement to a student entering the MA program in English at the University of Alberta.
Donor: Endowed by Norma Bell Christie, BA 1935, in memory of her mother, Sarah Nettie Christie.
Apply: By May 1 to the Department of English.

The City of Edmonton Graduate Fellowship

Field: Economics, Geography, Political Science, Sociology and Business (MPM)
Value: $3,000
Number: 1
Conditions: To be awarded annually to a Permanent Resident of the City of Edmonton who has lived in the City of Edmonton for at least five years, and who is preparing a Master's or PhD level thesis at the University of Alberta. The thesis must be related to civic government with special preference to students selecting topics directly concerned with the City of Edmonton. On completion of a selected candidate's thesis, a copy will be forwarded to the City of Edmonton for inclusion in its reference library.
Donor: Endowed by the City of Edmonton.
Apply: Director of Student Awards by February 1.

The Desmond I Crossley Memorial Scholarship

Field: Forestry
Value: $5,000
Number: 1
Conditions: Awarded annually to a graduate student in the Faculty of Agriculture and Forestry with particular interest in Forest Management or Silviculture. Basis for this award will be academic achievement and a perceived appreciation of forests and commitment to high standards in the practice of forest management, as exemplified by the late Dr Crossley. The scholarship will not be awarded unless a suitable candidate is available.
Donor: Family, colleagues and friends of Desmond I Crossley.
Apply: By nomination from Department of Forest Science.

Dr Rene McElroy Day Scholarship in Nursing

Field: Nursing
Value: $100 to $150
Number: 1
Conditions: Awarded annually at the end of the first year of studies to a graduate student (MN or PhD) in nursing for academic excellence.
Donor: Endowed by Chris and David McElroy in honor of their daughter Dr R McElroy Day.
Apply: To the Faculty of Nursing.

The Delta Delta Delta Alumnae Fellowship

Value: Variable
Conditions: Offered annually to a woman student of outstanding academic merit graduated from a degree program of The University of Alberta. Preference will be given to a student entering her first year of graduate work immediately following her undergraduate degree.
Where tenable: The University of Alberta or any other accredited university.
Apply: Director of Student Awards by February 1.

The Department of Educational Foundations Fund for the Promotion of Graduate Scholarship and Research

Field: Educational Foundations
Value: $600
Number: 1
Conditions: To be awarded annually on the basis of academic standing to a full-time graduate student in the Department of Educational Foundations.
Donor: Endowed by the Staff in the Department of Educational Foundations.
Apply: By nomination from the Department of Educational Foundations.

The Dissertation Fellowships
Value: $11,500
Number: Variable - 20 or more
Conditions: Designed for students who have a firm expectation of completing a doctoral program within twelve months following tenure. Tenure must begin between May 1 and January 1. Candidacy examinations must be passed before tenure begins. No other duties, teaching or otherwise, may be undertaken, and the recipient must be working full-time on his or her program.
Donor: The University of Alberta.
Apply: Awards will be made on nominations from Departments. Nominations will be called for by February 1.

The Edmonton Bar Association Graduate Studies Scholarship
Field: Law
Value: $4000
Number: 1
Conditions: Selection primarily on the basis of academic excellence for individuals entering the LLM program. Candidates must hold current membership in the Edmonton Bar Association.
Donor: Edmonton Bar Association.
Apply: To be nominated by the Faculty of Law.

The Edmonton Consular Ball Scholarship in International Studies
Field: Political Science, History or Law
Number: 1
Value: $1,000 plus up to $1,000 in travel expenses
Conditions: Awarded to graduate students and third and fourth year honors students in the Departments of Political Science and History, and students in the Faculty of Law. Applicants are to submit a proposal for a paper on any aspect of relations between nations for the preservation of world peace, although preference will be given to studies involving the work of the United Nations and its agencies. The travel portion of the scholarship may be accessed to carry out research at any United Nations headquarters.
Donor: Endowed by the Edmonton Consular Corps.
Apply: To the Office of Student Awards by February 28.

The Edmonton IPAC Scholarship
Field: Public Management
Value: $500
Number: 1
Conditions: To be awarded annually on the basis of high academic standing to a graduate student entering the candidacy (second) year of the Master of Public Management program.
Donor: The Edmonton Regional IPAC (Institute of Public Administration of Canada).
Apply: By nomination from Faculty/Department.

The Harry Farmer Graduate Scholarship in Music Theory
Field: Music Theory
Number: Variable
Value: Variable, up to $3,600
Conditions: Awarded to incoming graduate students in music theory with a minimum GPA of 7.5 in music courses in their final two undergraduate years.
Donor: Endowed by the Edmonton Mayfield Rotary Club.
Apply: To the Department Chair by April 1. Applications must be in writing and include two undergraduate music papers.

The Gerald Ferro Memorial Scholarship in Anthropology
Field: Forensic Anthropology
Value: $250
Number: 1
Conditions: To be awarded annually to either an Anthropology graduate student or a fourth year honors student intending to commence or continue graduate studies in the field of Forensic Anthropology. Selection will be made on the basis of a combination of academic standing, research potential, and innovation of proposed research as determined by a departmental selection committee.
Donor: Endowed by Dr Roy Marokus, MD, in memory of the late Gerald Ferro, a former solicitor and attorney at law in Tucson, Arizona.
Apply: By nomination from the Department of Anthropology.

The Faculty of Nursing MN Scholarship in Nursing
Field: Nursing
Value: $350
Number: 1
Conditions: To be awarded annually to the student with the highest academic average at the end of the first year of the Master of Nursing Program.
Donor: The Faculty of Nursing 50th Anniversary Scholarship Fund.
Apply: By nomination from Faculty/Department.

The James Patrick Folinsbee Memorial Scholarship in Creative Writing
Field: English
Value: Up to $3,000
Number: 1 or 2 not exceeding $3,000 in total
Conditions: To be awarded to a student (or students) of demonstrated ability in creative writing who will be entering fourth year of the Honors English program or any year of a graduate program in English. Also open to students from elsewhere who are entering a graduate program in English at thé University of Alberta. This award is open to full-time and part-time students.
Donor: Endowed by the late Dr FJ Folinsbee.
Apply: To Chair of the Department by April 30.

Florence Andison Friedman Scholarship
Field: Painting and Drawing
Value: $1,200
Number: 1
Conditions: To be awarded annually to deserving undergraduate or graduate students who demonstrate promise in the area of painting and/or drawing. Selection of recipients and the allotment of funds shall be at the discretion of the Awards Committee of the Department of Art and Design.
Donor: Endowed by friends and family of the late Florence Andison Friedman.
Apply: By nomination from the Faculty/Department.

The Dr EW Gauk Scholarship in Paediatric Neurology Research
Field: Neurological disorders of children
Value: To be determined
Number: 1
Conditions: To be awarded on an annual basis to a graduate student whose major field of study and research is concerned with neurological disorders of children.
Donor: Endowed by Dr EW Gauk of Edmonton.
Apply: By February 1 to the Director of Student Awards.

The Dr EW Gauk - Westfield Award
Field: Behavioral disorders of children
Value: $1,000
Number: 1
Conditions: To be awarded on an annual basis to a graduate student whose major field and research is concerned with behavioural disorders of children.
Donor: Dr EW Gauk of Edmonton.
Apply: Director of Student Awards by February 1.

The Geotechnical Society of Edmonton Award
Field: Geotechnical Engineering or Geotechnique
Value: $300
Number: 1
Conditions: Awarded annually to a graduate student in the graduate student seminar series in Geotechnical Engineering or for an excellent defence of a thesis in Geotechnical Engineering or Geotechnique.
Donor: Endowed by the Geotechnical Society of Edmonton in its 20 anniversary year of the founding of the Society in 1968.
Apply: By nomination from the Department of Civil Engineering.

The German Canadian Business & Professional Association of Alberta Prize for Honors and Graduate Courses
Field: Germanic Languages
Value: $500
Number: 1
Conditions: To be awarded annually to a graduate or undergraduate student for superior academic achievement in honors or graduate courses offered by the Department of Germanic Languages.
Donor: Endowed by the German Canadian Business and Professional Association of Alberta.
Apply: By nomination from the Department of Germanic Languages.

The RR Gilpin Memorial Scholarship
Field: Mechanical Engineering
Value: $650
Number: 2
Conditions: To be awarded on an annual basis to two full-time graduate students studying in the Department of Mechanical Engineering. Selection will be made on the basis of academic merit with special attention given to students who show special potential and exceptional ability and intellectual curiosity in their graduate work.
Donor: Endowed by family and friends of the late Dr RR Gilpin.
Apply: By nomination from a committee convened by the Department Chair.

The Graduate Research Travel Awards
Field: Open
Value: Variable, generally $100-500
Conditions: Available to PhD and thesis Masters students in support of approved travel related to thesis research.
Donor: The University of Alberta Alumni Association and the Faculty of Graduate Studies and Research.
Apply: Information and application forms available from the Faculty of Graduate Studies and Research.

Charles WB Gravett Memorial Scholarship
Field: Health Administration and Community Medicine
Value: $1,000
Number: 1
Conditions: Based on superior academic achievement, this award is for full-time students who have successfully completed their first year of PhD studies.
Donor: Endowed by Betty L Gravett in memory of her husband.
Apply: By nomination from the Department of Health Administration and Community Medicine.

The Captain Thomas Farrell Greenhalgh Graduate Memorial Scholarships
Field: Chemical Engineering
Value: $3,000 to $15,000
Number: Variable
Conditions: To be awarded annually to full-time graduate students in the Department of Chemical Engineering. The criteria for the awards will include academic achievement and either demonstrated research ability or research potential.
Donor: Endowed by Flora Greenhalgh.
Apply: By nomination from the Department of Chemical Engineering.

The Julius Guild Prize
Field: Psychiatry
Value: $500
Number: 1
Conditions: To be awarded annually to a third or fourth year Psychiatric Resident who has demonstrated ability in group and family therapy.
Donor: Endowed by family and friends in honor of Dr Julius Guild who retired from the Department of Psychiatry after twenty-five years of service.
Apply: By nomination from the Department of Psychiatry.

Gulf Canada Resources Limited Graduate Scholarship In Hydrocarbon Development
Field: Development of Hydrocarbon Energy Resources
Value: Approx. $7,500 (depending on interest earned from Endowment)
Number: 1
Conditions: To be awarded to an outstanding student registered in, or admissible to, graduate programs in the Faculty of Engineering in fields of research related to the development of hydrocarbon energy resources in Canada. The award may be renewed for a second year.
Donor: Gulf Canada Resources Limited.
Apply: By nomination from the Faculty of Engineering. If no suitable candidate is available in any one year, the award will not be given.

Metro Gulutsan Doctoral Fellowship
Field: Central and East European Studies
Value: $11,500
Number: 1
Conditions: Based on academic achievement, to be awarded annually to a PhD student who has completed the candidacy exams and is in the final year of writing. The program and dissertation topic must be relative to the peoples and cultures of the USSR or East Central Europe, including possibly their Canadian manifestation. If there is no suitable PhD candidate in a given year, the award can be given to both a PhD and an MA candidate the following year. The award is non-renewable, nor may recipients receive other remuneration for University of Alberta or departmental duties.
Donor: Endowed by the Central and East European Studies Society of Alberta (CEESSA) in honor of the Society's founder in 1976.
Apply: By February 1 to the Director, Office of Student Awards.

The Herbert and Jeannette Hall Graduate Scholarship in Forestry
Field: Forestry
Value: $500
Number: 1
Conditions: Offered annually to a student entering or continuing in a program of graduate studies in the field of forestry. The basis of award is academic merit and financial need. Preference may be given to students born in Alberta.
Donor: Endowed by Herbert and Jeanette Hall.
Apply: By nomination of the Department of Forest Science.

The Harry J Hargrave Memorial Graduate Scholarships in Animal Science
Field: Animal Science
Value: $1,000 each
Number: 2
Conditions: To be awarded annually to the graduate students showing superior communication and academic skills preferably in the area of beef cattle or sheep production.

Donor: Endowed by the friends and family of the late Harry J Hargrave, a longtime beef cattle and sheep research scientist, extensionist and agricultural adviser.
Apply: By nomination from the Faculty of Agriculture and Forestry.

The William and Mary Hawrysh Memorial Graduate Scholarship

Field: Slavic and East European Studies
Value: $10,000
Number: 1
Conditions: To be awarded annually to a student of outstanding merit in the Faculty of Graduate Studies and Research to assist in research related to the study of the history, culture, social life, or ethnography of Ukrainians in Canada. Preference will be given to Canadian Citizens and Permanent Residents.
Donor: Endowed by the late William Nestor Hawrysh and his wife, Katerina Hawrysh in memory of Mr Hawrysh's parents, William and Mary Hawrysh.
Apply: By February 1 to the Director of Student Awards.

The Myer Horowitz Graduate Scholarships

Field: Open
Value: $1,000
Number: 2 to 7
Conditions: Awarded annually to full-time graduate students at the University of Alberta. This award may not be held concurrently with a major award.
Donor: Endowed by the University of Alberta Graduate Students Association.
Apply: To the Director of Student Awards by February 1.

The Hungarian Studies Scholarship

Value: $500
Number: 1
Conditions: Offered annually to an outstanding graduate student (Canadian Citizen or Landed Immigrant) who studied any topic relating to Hungary or Hungarians. The submission of an essay (or theses, or dissertation) is necessary for the award. A committee will judge the essays. If there is no suitable candidate, no award will be made.
Donor: Endowed by The Hungarian Cultural Society of Edmonton.
Apply: By nomination from the Department of Slavic and East European Studies.

The Walter H Johns Graduate Fellowship

Field: Open
Value: $2,500
Conditions: Awarded to all full-time graduate students at the University of Alberta who are receiving major scholarships from MRC (Medical Research Council of Canada), NSERC (Natural Sciences and Engineering Research Council of Canada), or SSHRC (Social Sciences and Humanities Research Council of Canada). The full award will be given to students holding such a scholarship for a full academic year (September to April) and one-half of the award will be given to students holding a scholarship for one four-month term of an academic year.
Donor: The University of Alberta.
Apply: By September 30 to the Faculty of Graduate Studies and Research on special application forms available from the Faculty, or Department offices.

The Walter H Johns Memorial Graduate Scholarship in Classics

Field: Classics/Comparative Literature
Value: Variable ~$2,800
Number: 1
Conditions: To be awarded annually on the basis of academic attainment to an outstanding student entering or continuing a full-time graduate program in Classics. In the event that in any year a suitable recipient in Classics is not available, outstanding students in Comparative Literature shall be eligible for consideration.
Donor: Endowed by family, colleagues, and friends in memory of Dr Walter H Johns, former Professor of Classics and President of The University of Alberta.
Apply: Nominated by the Department of Classics.

Heinz Jordan Memorial Scholarship

Field: Art and Design
Value: $500
Number: 1
Conditions: Offered annually to an MFA student for excellence in any of the fields of specialization offered by the Department of Art and Design.
Donor: The Heinz Jordan and Company Limited.
Apply: To the Department of Art and Design.

Joseph and Melitta Kandler Graduate Scholarship for International Student Exchange with Austria

Field: To be assigned from time to time for the benefit of individual faculties for periods of several years.
Value: $1,000
Number: 1
Conditions: The initial period of 3 years (until 1992) is assigned to the Faculty of Business for support of a graduate student intending to study for one semester at the Wirtschaftsuniversitaet, Vienna, Austria
Donor: Dr Joseph Kandler, a native of Vienna, and a graduate of the Hochschule fuer Welthandel, now named Wirtschaftsuniversitaet, Vienna, is a former member of the Senate and Board of Governors of the University of Alberta. Melitta Kandler began her studies at the University of Graz, Austria and graduated with an MA from the University of Alberta.
Apply: To the International Student Centre, in consultation with the appropriate Faculty office.

The Izaak Walton Killam Memorial Scholarships

Field: Open
Value: $15,500
Number: 11
Conditions: Offered to outstanding students registered in, or admissible to, a doctoral program. Applicants must have completed at least one year of graduate work before start of tenure. Granted initially for two years (subject to review after the first year). Tenure to begin May 1 or September 1. There is also a possible maximum $1,500 research grant over the full tenure of the award.
Donor: The estate of Mrs Dorothy J Killam.
Apply: Director of Student Awards by February 1.

The Evelyn Kline Memorial Award in Community Development

Field: Community Development
Value: $125
Number: 1
Conditions: To be awarded annually on the basis of high academic standing to a student enrolled full-time in a Masters Program offering courses in Community Development. The students research topic for the MA degree must be in the area of Community Development.
Donor: The National Council of Jewish Women of Canada.
Apply: By nomination from Faculty/Department.

The Henry Kreisel Scholarship in Canadian Literature

Field: Graduate Studies in Canadian Literature in the Department of Comparative Literature, English or Romance Languages
Value: $300
Number: 1
Conditions: To be awarded annually on the basis of academic attainment to any student in Canada entering or registered in graduate studies in Canadian Literature, in the Department of Comparative Literature, English, or Romance Languages at the University of Alberta.
Donor: Friends of Henry Kreisel.
Apply: By nomination from the Henry Kreisel Scholarship Selection Committee.

The Labatt's MBA Fellow Award

Field: Business Administration
Value: Variable ~$2,000 and Labatt's MBA Fellow Designation
Number: 1
Conditions: To be awarded annually to a student entering second year of the MBA Program on the basis of high academic achievement and other contributions as exhibited by the student during the first year of the MBA Program. A committee will be selected annually by the Dean of the Faculty to review the credentials of candidates and select the recipient of the award. The award carries with it the distinction of being known as a "Labatt's Fellow".
Donor: John Labatt Limited.
Apply: By nomination of the Faculty of Business.

The Library Association of Alberta Prizes

Value: $100
Number: 2
Conditions: Awarded on basis of outstanding performance as a student, academic merit and an indication of potential contribution to the library profession. Prize winners receive financial assistance to attend Alberta Libraries Conference to receive awards.
Donor: The Library Association of Alberta.
Apply: By nomination from Faculty/Department.

The Library Science Alumni Scholarship

Field: Library Science
Number: 1
Value: $750
Conditions: To be awarded annually to a student entering the first year of the Library Science program who has achieved high academic standing as well as demonstrated professional potential.
Donor: Endowed by the Alma Mater Fund, the Library Science Alumni Association, etc.
Apply: To the Faculty of Library Science

Luscar Graduate Scholarship in Environmental Engineering

Field: Engineering
Value: $6,500
Number: 3
Conditions: To be awarded to students pursuing graduate research into an aspect of technology directed at minimizing the environmental impacts resulting from the recovery, transportation, or utilization of fossil fuel resources. Protection of the air environment will be a primary objective.
The awards are renewable, in open competition, for one year at the MSc level and two years at the PhD level. These scholarships may be held concurrently with other awards and will be restricted to Canadian Citizens and Permanent Residents.
Donor: Endowed by Luscar Ltd.
Apply: By nomination from the Faculty of Engineering.

MacAllister Scholarship in Agriculture

Field: Agriculture
Value: $500
Number: 1
Conditions: Awarded annually to a Faculty of Agriculture graduate student who is a Canadian Citizen or Landed Immigrant, in good academic standing, with financial need. Evidence of community activities an asset. Student could apply for a second award.
Donor: Endowed by the MacAllister family in memory of Gault A MacAllister.
Apply: By nomination from the Dean's Office, Faculty of Agriculture and Forestry.

The Dr John Macdonald Scholarship in Philosophy

Field: Philosophy
Value: Variable ~$2,000
Number: 1
Conditions: To be awarded annually to a student entering a graduate program in the Department of Philosophy on the basis of outstanding work in senior courses in philosophy. The successful candidate will present an overall average of no less than 7.5 and will preferably demonstrate a particular interest in pursuing the philosophy of Kant or the field of ethics. The award will be restricted to Canadian Citizens or Permanent Residents. Although priority will be given to students who did their undergraduate work at the University of Alberta, consideration may be given to graduates of other Canadian universities.
Donor: Endowed by T Harold Fountain of Calgary, Alberta.
Apply: By nomination from the Department of Philosophy.

The Elizabeth Russell MacEachran Scholarship

Field: Home Economics
Value: $5,000
Conditions: To be offered annually for graduate study in Home Economics, preferably in the field of Foods and Nutrition.
Donor: Endowed by the late Dr JM MacEachran in memory of his wife who was the first dietitian of the University residences.
Apply: Director of Student Awards by February 1.

The Max MacLaggan Scholarship

Field: Forestry
Value: $1,200
Number: 1
Conditions: To be awarded annually to a graduate student in forestry with particular interests in forest renewal or forest operations.
Donor: Endowed initially with a major grant from Mrs Esther MacLaggan and then supplemented by donations from former friends and employers.
Apply: By nomination from Faculty/Department

Jannetta MacPhail Award

Field: Nursing
Value: $800
Number: 1
Conditions: Awarded annually to a PhD student in Nursing who has been admitted to Candidacy and has the highest GPA (at least 8.0) at the time of candidacy. It can only be awarded once to the same individual.
Donor: Endowed by colleagues and friends of Jannetta MacPhail, Former Dean, Faculty of Nursing.
Apply: By nomination from the Faculty of Nursing.

The Master of Nursing Alumni Award for Professional Excellence

Field: Nursing
Number: One per year, usually given at Spring Convocation
Value: $50
Conditions: To be awarded annually to the graduating MN student who has demonstrated the greatest achievement in thesis research and potential for research.
Donor: Master of Nursing Alumni.
Apply: Nominated by the Graduate Committee on Promotions and Awards of the Faculty of Nursing.

The William H McCardell Memorial Scholarship in Forest Science

Field: Forestry
Value: $1,000
Number: 1
Conditions: Offered annually to a graduate student in the field of forestry.
Donor: Endowed by the late William H McCardell.
Apply: By nomination from the Department of Forest Science.

The McClure Award in Nursing

Field: Nursing
Value: $50 for books
Number: 1
Conditions: To be awarded to a graduating student from the MN program for merit. (Grade point average not less than 7.0 and proficiency in nursing.)
Donor: The Faculty of Nursing 50th Anniversary Scholarship Fund.
Apply: By nomination from Faculty/Department.

McClure Book Prize

Field: Nursing
Value: $150
Number: 1
Conditions: Awarded to a student graduating from the Master of Nursing and Certificate in Nurse-Midwifery program who has a GPA of at least 7.0 and who has demonstrated outstanding clinical proficiency in the practice of mid-wifery.
Donor: Endowed by friends of Miss RE McClure.
Apply: By nomination from Faculty/Department.

The Honorable ND McDermid Graduate Scholarship in Law

Field: LLM program in the Faculty of Law
Value: $10,000
Number: Maximum 2
Conditions: Awards will be made by the Graduate Studies Committee of the Faculty of Law based upon academic excellence and proven ability of the applicant in the area of study. If, in the opinion of the University of Alberta, Faculty of Law, Graduate Studies Committee, no suitable applications are received, no awards will be made. The scholarships are not renewable.
Donor: McDermid Law Fund in memory of the late Honorable Neil Douglas McDermid, QC, who was a prominent member of the legal profession of Alberta and the Calgary community for many years.
Apply: To the Dean's Office, Faculty of Law, by February 1.

The Hazel McIntyre Summer Research Award

Field: Foods and Nutrition
Value: $1,000
Number: 1
Conditions: Awarded annually to a candidate for the MSc/PhD degree in Foods and Nutrition initiating, conducting, or completing thesis research. (Preference will be given to an MSc candidate.) The student should be receiving no or limited financial support from other sources over the summer term.
Donor: Endowed by former students, friends, and colleagues of Hazel McIntyre, former Director of the School of Home Economics.
Apply: By April 1 to the Department of Foods and Nutrition.

The Mensa and ABC Award in Memory of Harold AB Cartledge

Field: Open
Value: $800
Number: 1
Conditions: To be awarded annually on the basis of academic achievement in a course, the focus of which is the education of gifted children.
Donor: Established by greater Edmonton Mensa and the Edmonton Chapter of the Association for Bright Children in memory of Harold AB Cartledge.
Apply: By nomination from the Department of Educational Psychology.

The Dr Hastings Mewburn Graduate Scholarship in Orthopedic Medicine

Field: Medicine
Value: $1,000
Number: 1
Conditions: Selection will be based on the outstanding merit of the student in the field of Orthopedic Medicine.
Donor: Endowed by Mr Norman W McLeod of Toronto, a former University of Alberta student, in gratitude for the free medical service given by the late Dr Hastings Mewburn to a football injury suffered by Mr McLeod in the 1930's.
Apply: By nomination from Faculty/Department.

The Dr RH Mewburn Memorial Prize

Field: Psychiatry
Value: $1,000
Number: 2
Conditions: Awarded annually to an outstanding senior psychiatric resident in recognition of excellence in the areas of Clinical and Liaison Psychiatry.
Donor: Endowed by members of the Mewburn family and colleagues of the late Dr RH Mewburn.
Apply: By nomination from the Department of Psychiatry.

The Dr Marie Meyer Memorial Research Grant

Field: Elementary Education
Value: $1,000
Number: 1
Conditions: Open to all graduate students registered in the Department of Elementary Education and who are undertaking research of significance to Reading/Language Education, and who have presented their proposal since the previous award was granted. Based on a minimum of 24 credits including all credits completed in the terms in which the 24 credits fail. A thesis or project proposal must be completed.
Donor: Endowed by the Zonta Club of Edmonton, in memory of a former member, Dr Marie Meyer.
Apply: By nomination from the Department of Elementary Education. The graduate coordinator will nominate in consultation, as required, with the Language Arts SAC.

Norcen Energy Resources Scholarship

Field: Chemistry, Geology, Geophysics, Petroleum Engineering, and Mechanical Engineering
Value: $1,500
Number: 10
Conditions: Offered annually to undergraduate students proceeding to either the second, third, or fourth year of full-time studies in either Chemistry, Geophysics, Geology, Petroleum Engineering, or Mechanical Engineering. Selection will be on the basis of superior academic achievement with consideration given to community involvement, extra-curricular activities, and demonstrated leadership potential. In the case of a tie, the final decision will be based on financial need. Recipient must be a Canadian Citizen or Permanent Resident.
Donor: Norcen Energy Resources Limited.
Apply: By nomination from the Department.

The Milt Pahl MBA Scholarship

Field: Master of Business Administration
Value: $750
Number: 1
Conditions: To be awarded annually to a Canadian Citizen who has completed the first year of the MBA program and whose academic standing is in the top half of the class. Selection will be based on community or business leadership potential, evidence of community contribution and/or achievement. Preference will be given to Alberta residents.
Donor: Endowed by Mr Milt Pahl from contributions made towards his career as a Member of the Legislative Assembly of Alberta.
Apply: Candidate to be nominated by a Faculty of Business Committee.

The Parke-Davis Canada Centennial Pharmacy Research Award

Field: Pharmacy
Value: $4,000
Number: 1
Conditions: Offered annually to a student entering a graduate program in the Faculty of Pharmacy. Recipients must be a graduate of Pharmacy from a recognized Canadian university or College of Pharmacy.
Donor: Parke-Davis Canada Inc.
Apply: Awarded on recommendation of the Faculty, giving some detail of the proposed research project.

The Helen E Penhale Graduate Research Travel Award

Field: Nursing
Value: Variable
Number: 2
Conditions: To be awarded annually to outstanding students for the purpose of either presenting a paper or research proposal to a scientific conference, or attending a research conference that is deemed to be significant for the development of the student's research abilities. Criteria for selection will include demonstrated research ability, progress in developing a research proposal, quality of research, and the student's research potential.
Donor: Endowed by JC Penhale and HE Penhale in recognition of Miss HE Penhale, a former University of Alberta staff member and Dean of the Faculty of Nursing.
Apply: By nomination from the Faculty of Nursing.

Petro-Canada Graduate Scholarship

Field: Engineering research associated with the development of petroleum resources
Value: $2,500 - $15,000
Number: 1
Conditions: To be awarded annually to an outstanding student registered in, or admissable to, a doctoral program in the Faculty of Engineering, and engaged in a field of research leading to the advancement of technology associated with the development of petroleum resources. The award, which may be renewed for a second and third year, is open to Canadian students. In the first year of award only, the scholarship may be held in conjunction with another award.
Donor: Endowed by Petro-Canada Inc.
Apply: By nomination from the Department of Mining, Metallurgical, and Petroleum Engineering.

The Pfizer Research Scholarship

Field: Pharmacy
Value: $350
Conditions: Offered annually to a graduate of The University of Alberta who is undertaking graduate work in the Faculty.
Donor: Pfizer Canada Inc.
Apply: Awarded on recommendation of the Faculty.

Province of Alberta Graduate Fellowships

Value: $10,500
Number: Variable - about 30
Conditions: Open to students who have completed at least one year of graduate study and who are registered for a full-time doctoral program. Recipients are expected to carry out a full-time research program during the summer months. Tenure to begin May 1 or September 1. The award is for eight or twelve months. They may be terminated earlier by either the student or the University and the amount reduced proportionately. Applicants must be Canadian Citizens or Permanent Residents (Landed Immigrants) at the date of application.
Donor: The Government of the Province of Alberta.
Apply: Director of Student Awards by February 1.

Province of Alberta Graduate Scholarships

Value: $9,300
Number: Variable - About 50
Conditions: Normally open to all students entering or continuing in graduate studies except in a "qualifying year." The award is for eight or twelve months, but partial awards may be recommended at a reduced value. They may be terminated earlier by either the student or the University and the amount reduced proportionately. Tenure to begin May 1 or September 1. Applicants must be Canadian Citizens or Permanent Residents (Landed Immigrants) at the date of application.
Donor: The Government of the Province of Alberta.
Apply: The Director of Student Awards by February 1.

The William Rea Scholarship

Value: $2,500
Number: 2
Conditions: Offered annually to a University of Alberta graduate or graduating student who shows the best aptitude in terms of scholarship and extracurricular activity for a career in drama, music or writing.
Where tenable: Any accredited university.
Donor: William Rea, Jr, in honor of his father, a pioneer Edmonton educator.
Apply: Director of Student Awards by February 1.

The Sarah Rebecca Reed Medal in Library Science

Conditions: To be awarded annually to the graduate student best demonstrating academic excellence.
Donor: Endowed by the late Sarah Rebecca Reed, founding Director, and supplemented by donations.
Apply: By nomination from Faculty/Department.

The Sarah Rebecca Reed Memorial Scholarship in Library Science.

Field: Library Science
Value: $600
Number: 1
Conditions: Offered annually to a student entering the second year of the Master of Library Science program.
Donor: Endowed by the late Sarah Rebecca Reed, founding Director, and supplemented by donations.
Apply: By nomination from Faculty/Department.

The Helen Rollis Prize for Excellence in Advanced Nursing Practice

Field: Nursing
Value: $200
Number: 1
Conditions: To be awarded annually to a graduate student in the final year of the MN Program at the University of Alberta, who has demonstrated distinguished performance in clinical nursing practice.
Donor: Endowed by the Rollis family on the occasion of the fiftieth anniversary of Mrs Helen (Calvert) Rollis' completion of her Diploma Nursing course at the Calgary General Hospital.
Apply: By nomination from the Faculty members of the MN Program.

The DB Robinson Graduate Scholarship in Chemical Engineering

Field: Chemical Engineering
Value: Variable ~$2,000

Number: 1
Conditions: To be awarded annually to a graduate student of high academic standing in the Department of Chemical Engineering. Preference will be given to students studying in the field of Thermodynamics.
Donor: Endowed by the Faculty of Engineering, the colleagues and friends of Dr Donald B Robinson upon his retirement in 1984, after 36 years of distinguished service in the Department of Chemical Engineering.
Apply: By nomination from the Department of Chemical Engineering.

The Donald M Ross Scholarship

Field: Marine Biology
Value: $1,000
Number: 1
Conditions: To be awarded on the basis of academic merit to a student registered in or admissible to a full-time thesis program leading to a master's or a doctoral degree at the University of Alberta. This award is to support graduate study at the University of Alberta and/or Bamfield Marine Station, Bamfield, B.C.
Donor: Endowed by the colleagues and friends of the late Donald M Ross, a long-time academic staff member of the University of Alberta and former Chair of the Department of Zoology of Alberta, by January 31.
Apply: By nomination from the Department of Zoology, University of Alberta.

The Ivan Lysiak Rudnytsky Memorial Doctoral Fellowship in Ukrainian History and Political Thought

Field: Ukrainian History & Political Thought
Value: $3,500
Number: 1
Conditions: To be awarded to a student pursuing doctoral research in Ukrainian history and political thought. The successful applicant must be a first class student (as defined by General Faculties Council), must have passed his/her comprehensive examinations with first class standing, and must show promise of producing high quality, non-partisan scholarship. Should there be no suitable doctoral candidate in any year the funds will be reinvested, thus increasing the size of the following year's scholarship. Annually, the Chair of The Department of History will chair a selection committee comprised of a Professor of Ukrainian History in the Department of History, a Professor of European History in the Department of History, a representative of the Faculty of Graduate Studies and Research, and the Director of the Canadian Institute of Ukrainian Studies.
Donor: Endowed by Dr Alexandra Chernenko Rudnytsky, in memory of her late husband, Dr Ivan Lysiak Rudnytsky, a long-time academic staff member of the University of Alberta.
Apply: By nomination from the Chair, Department of History.

The Jeffrey R Sampson Graduate Memorial Prize

Field: Computing Science
Value: $500
Number: 1
Conditions: To be awarded to a full-time graduate student in computing science with the highest GPA over the best four graduate courses at the end of his/her first year. An MSc candidate must have taken at least six courses, five of which must be at the graduate level. A provisional PhD level candidate must have taken at least four courses at the graduate level.
Donor: Endowed by the friends of the late Jeffrey R Sampson, former professor of Computing Science.
Apply: Candidates will be selected by the Department of Computing Science.

The Thelma R Scambler Scholarship

Field: Graduate studies in gerontology or geriatrics
Value: Variable
Conditions: Offered to one or more students undertaking graduate studies or research related to gerontology or geriatrics, in any faculty of the University of Alberta.
Donor: Family, friends and colleagues of Thelma R Scambler.
Apply: Director of Student Awards by February 1.

Christopher Scarfe Memorial Graduate Scholarship in Geology

Field: Geology, with preference given to individuals conducting research in Petrology and/or Mineralogy
Value: Variable
Number: 1
Conditions: To be awarded annually to a student either entering, or continuing in a graduate program in Petrology and/or Mineralogy. The successful recipient will possess an outstanding academic record, and exceptional research abilities, skills, and potential. Should no suitable candidate be available in any given year, the Department will accept applications from individuals studying in other areas in the Department of Geology.
Donor: Endowed by the family, colleagues, and friends of the late Dr Christopher Scarfe, in honor of his outstanding contributions both to the University of Alberta and to the advancement of knowledge in Petrology and Mineralogy.
Apply: By nomination from the Department of Geology.

John and Patricia Scholosser Environment Scholarship

Field of Study: Open
Value: $2500
Number: 1
Conditions: Awarded annually to a graduate student whose research, scholarship, or creative work is judged to be a most outstanding contribution to our understanding, appreciation, or amelioration of our earthly environment. If no suitable candidate is found at the time of selection, the scholarship will not be awarded in that year.
Donor: Endowed by colleagues and friends of John L Schlosser, former Chair of the Board of Governors, University of Alberta.
Apply: On a Graduate Scholarship application form to the Director of Student Awards by February 1. Application must include a one-page letter of support from the Chair of the Department.

The A Ralph Schrag Memorial Prize in Child Psychiatry

Field: Psychiatry
Value: $300
Number: 1
Conditions: Offered annually to recognize and encourage psychiatric residents who excel in child psychiatry.
Donor: Endowed by members of the Psychiatric fraternity.
Apply: By nomination from the Department of Psychiatry.

The JR Schrumm Memorial History Prize

Field: History
Value: $150
Conditions: The prize is to be given for the best paper presented in any graduate seminar in Canadian history written by a student registered in the Masters program in Canadian History.
Donor: Endowed by CUPE Broadcast Division Local 684, CBC staff and friends, U of A History Department members, Amisk Waskahegan Chapter Historical Society of Alberta.
Apply: By nomination from Faculty/Department.

The Scotia McLeod Scholarship

Field: Business Administration
Value: $2,500
Number: 1
Conditions: To be awarded annually to a student of outstanding merit entering or already in the MBA program at the University of Alberta.
Donor: Scotia McLeod.
Apply: By nomination from Faculty/Department.

The Mary Alice Scott Book Prize

Value: $100 in books
Conditions: To be awarded annually to a student who has specialized in academic librarianship, and who has demonstrated outstanding performance and professional potential.
Donor: The Association of Professional Librarians at the University of Alberta.
Apply: By nomination from Faculty/Department.

The Pundit RD Sharma Memorial Graduate Award in Mathematics

Field: Mathematics
Value: $500
Number: 1
Conditions: To be awarded annually to an incoming graduate student in the Department of Mathematics on the basis of high academic standing. The decision will be made by the Graduate Committee of the Department of Mathematics as it annually reviews its graduate admission applications.
Donor: Endowed by Mr Yogeshwar Sharma and Dr Ambikeshwar Sharma in memory of the late Pundit RD Sharma.
Apply: By nomination from the Department of Mathematics.

The Flore Shaw Graduate Scholarship in Music

Value: $4,000
Conditions: To be awarded annually to a graduate from the Master of Music program of The University of Alberta, based on outstanding merit in studies and strong potential ability for a professional career in music. The award must be used toward further study either with a recognized private teacher or at a recognized institution. The award is to be given as one award and may not be divided. Applicants must be graduates of the Master of Music degree in the calendar year under review.
Donor: Mrs Flore Shaw of Berwyn, Alberta.
Apply: Apply to the Department of Music by September 1.

The Joan Shore Memorial Scholarship in Graduate Studies

Field: Classics, Comparative Literature, English, or History
Value: $1,000
Number: 1
Conditions: To be awarded annually to a graduate student who in the opinion of the Student Awards Office in consultation with the Dean of Graduate Studies and Research best demonstrates academic excellence in Classics, Comparative Literature, English, or History.
Donor: Endowed by the family and friends of the late Joan Shore, a member of the University community from 1954 to 1984.
Apply: By nomination of the Dean of Graduate Studies.

The Harry Edward Sim Memorial Scholarship

Field: MSc or PhD program in Civil Engineering
Value: $750
Number: 1
Conditions: To be awarded annually to a graduate student who is doing thesis work on a topic relating to structural masonry. A student may hold the award up to three times.
Donor: The Alberta Masonry Institute, The Masonry Contractors Association of Alberta, and Genstar Building Materials in memory of Harry Edward Sim.
Apply: Selection will be made by the Department of Civil Engineering.

The Robert Simonet Graduate Scholarships

Field: Plant Science (Horticulture)
Value: $800 (MSc), $1,200 (PhD)
Number: 1 of each
Conditions: Offered annually to full-time graduate students in Horticulture who have completed one year of coursework and research toward an MSc or PhD degree. Students must have high academic standing, and thesis research must be well defined at the time of application. Successful candidates are eligible to re-apply in subsequent years.
Donor: Endowed by Lillian and Robert Simonet.
Apply: Submit a letter of application with attached summary or proposal of research project to Department Chair by February 1. By nomination of the Department on the recommendation of the Horticulture staff.

The Robert Simonet Travel Bursaries

Field: Plant Science (Horticulture)
Value: $700 (PhD), $300 (MSc)
Number: 1 of each
Conditions: Offered annually to cover expenses incurred in attending major scientific conferences. Candidates must be full-time graduate students presenting a paper in the area of Horticulture. The awards given ($700 or $300) will be based upon the calibre of the conferences and the estimated costs submitted by the candidates.
Donor: Endowed by Lillian and Robert Simonet
Apply: Applicants must submit a letter of application with an estimate of travel and accommodation costs. In addition, a copy of the submitted abstract must be enclosed and all materials submitted to the Department Chair. Nominations for the awards will be made by the Department on the recommendation of Horticulture staff.

The Slavic and East European Studies 75th Anniversary MA Scholarship

Field: East European Studies
Value: $350
Number: 1
Conditions: Awarded annually to a student of high academic merit in the MA program in Slavic and East European Studies, upon completion of first winter session as a full-time student.
Donor: Endowed by funds from the 75th Anniversary Appeal.
Apply: By nomination from the Department of Slavic and East European Studies.

The J Macgregor Smith Graduate Scholarship

Field: Agricultural Engineering
Value: $5,000
Conditions: Offered every year to a graduate student in Agricultural Engineering.
Donor: The estate of Mrs Ida Baldwin Smith.
Apply: By nomination from the Department of Agricultural Engineering.

Kennett Y Spencer Memorial Scholarship

Field: Open
Value: $800
Number: 1
Conditions: Open to residents of the north (Northern Alberta as defined by Northern Alberta Development Council Area, Northwest Territories, and Yukon). The award will be granted annually to a senior undergraduate or graduate at the University of Alberta for high academic attainment and original research carried out in any discipline pertaining to northern studies.
Donor: Endowed through the will of the late Kennett Y Spencer.
Apply: By nomination from the Canadian Circumpolar Institute at the University of Alberta.

The Molly Spohn Research Travel Grant

Field: Nursing
Number: 1
Value: $300
Conditions: To assist graduate students in financing travel to conferences outside of Alberta for learning or presenting research.
Donor: Endowed by Mrs Molly Whittaker
Apply: In writing to Faculty of Nursing.

St John's Institute Scholarship in Memory of Samuel F Woloshyn

Value: $1,000 over the four month Intersession period
Conditions: To be awarded to a student in the Faculty of Graduate Studies and Research to assist in research related to the study of the cultural, organizational and/or the social life of Ukrainians in Canada. (Under special circumstances the value may be increased in any one year but the total in any three years may not exceed $3,000.)
Donor: The Board of Directors, St John's Institute, Edmonton, Alberta.
Apply: By letter to the Director of Student Awards by March 1.

The Andrew Stewart Memorial Graduate Prize

Field: Open
Value: $2,500
Number: 20
Conditions: Available to full-time PhD candidates at the University of Alberta who have completed two years of their PhD program and are actively engaged in thesis research. Major scholarship holders may apply unless restricted by the granting agency. The award may be held only once by any student.

The Graduate Scholarship Committee is responsible for the selection of the prize recipients. Selection is based partly on academic merit, but research productivity and/or potential ability in research is a major criterion.

Students may apply by completing an Application for Fellowship or Scholarship form available from the Student Awards Office. This form includes a research progress report. In addition, two letters of reference (forms available from the Student Awards Office) should be submitted; one of these references should be the student's research supervisor.

The Dean of the Faculty of Graduate Studies and Research will announce the awards and present certificates to the award recipients in March.
Donor: Endowed by the University of Alberta and named for Andrew Stewart, President of the University of Alberta from 1950 to 1959 under whose administration the Faculty of Graduate Studies and Research was created.
Apply: Director of Student Awards by February 1.

The Strathcona Physiotherapy (1977) Ltd Research Award

Value: $4,000 (if one) or $2,000 (if two)
Number: 1 or 2
Conditions: Awarded to postgraduate physiotherapy students on the basis of ability and aptitude in carrying out original research in the field of Manual Orthopaedic Therapy. The award is offered annually, depending on the suitability of candidates, and is renewable for more than one year. Students will be expected to present and publish the results of their research.
Donor: The Strathcona Physiotherapy (1977) Ltd.
Apply: By nomination from Faculty/Department.

The Frank Squires Scholarship in Urology

Field: Urology
Value: $1,500
Number: 1
Conditions: To be awarded annually to a resident in the Urology training program for achievement in Urological research.
Donor: Endowed by Mr Frank Squires.
Apply: By nomination from the Department of Surgery, Division of Urology.

Eva Dannhauer Summers Memorial Scholarship

Field: German
Value: $750
Number: 1
Conditions: To be awarded annually on the basis of superior academic achievement and financial need, to a senior undergraduate or graduate student who will further their German studies by the scholarship.
Donor: Endowed by Mr Thomas E Summers.
Apply: By nomination from the Department of Germanic Languages.

The Dr Terry Swanson Memorial Scholarship

Field: Plant Pathology
Value: $300
Conditions: A scholarship made available by the Plant Pathology Society of Alberta, will be awarded to the graduate student in plant pathology who best exemplifies Dr Swanson's high standard of achievement in coursework and applied research.
Donor: Plant Pathology Society of Alberta
Apply: Apply by letter to the Office of Student Awards, 252 Athabasca Hall, by August 1st, outlining academic plans including research outline, career goals, research experience, etc.

The Margaret Thompson Memorial Prize in Chemistry

Field: Chemistry
Value: Variable, in books
Number: Variable
Conditions: To be awarded annually to the full-time student with the highest average on completion of the first full year of graduate studies in chemistry. More than one award may be made if two or more students have equivalent academic standing.
Donor: Endowed by friends of the late Margaret Thompson
Apply: By nomination from the Department of Chemistry.

The University of Alberta/Canadian International Development Agency Scholarship Program for Men and Women from Developing Countries Graduate Scholarships

Value: $10,800 (Canadian)
Conditions: A graduate scholarship for Master's level study which is renewable for a further year; for PhD study the award may be renewed twice. Renewals are subject to satisfactory performance. A research/travel/book allowance of $2,000 at the Master's level and $3,000 at the PhD level is awarded with the scholarship. Incoming and return travel, tuition expenses, medical coverage, and a $700 one time establishment allowance is also included.

These Graduate awards are to provide students from developing countries an opportunity for scholarship support in fields of study not available in their home countries. Applicants must be in their home country at the time of application. It is the intent that students will return home to pursue careers which will aid in the development of their countries.
Donor: The University of Alberta/Canadian International Development Agency.
Apply: By December 1. Application forms available from the Office of Student Awards.

University of Alberta Master of Fine Arts, Master of Visual Arts Scholarship

Field: Fine Arts or Visual Arts
Value: $9,000
Number: 3
Conditions: Awarded to superior scholars newly admitted to the MFA or MVA program at the University of Alberta. Offered for a one-year term with a possible second year renewal pending satisfactory academic standing and recommendation from the student's supervisor, endorsed by the Department Chair. The recipient is to provide one-half teaching assistance to the department.
Donor: The University of Alberta.
Apply: Awards will be made upon nominations from the admitting department to the Dean, Faculty of Graduate Studies and Research. Nomination forms and criteria are available from the Office of the Dean, Faculty of Graduate Studies and Research.

University of Alberta PhD Scholarship

Field: Open
Value: $12,000
Number: 40
Conditions: Awarded to superior scholars accepted for admission directly into a PhD program (not by reclassification from another degree). Offered for a one-year term with a possible second renewal pending satisfactory academic standing and recommendation from the student's supervisor, endorsed by the Department Chair. The award holder will be required to apply for all available and appropriate scholarships. In addition the recipient is to provide one-half teaching assistance to the department.

This award contains a provision for top-up funding for recipients who are successful in obtaining other scholarship funding. May not be held together with the Walter H Johns Graduate Fellowship (formerly Graduate Faculty Fellowship).
Donor: The University of Alberta.
Apply: Awards will be made upon nominations from the admitting department to the Dean, Faculty of Graduate Studies and Research. Nomination forms and criteria are available from the Office of the Dean, Faculty of Graduate Studies and Research.

The Professor Osman James Walker Memorial Scholarship

Value: $500
Conditions: Awarded in September to a student who graduated from the University of Alberta in the previous academic year, and who has enrolled in graduate studies in the Department of Chemistry.
Donor: Endowed by friends of the late Professor Walker, a former head of the Department.
Apply: By nomination from Faculty/Department.

The Max and Marjorie Ward Scholarship

Field: Wildlife Biology and Entomology of the North
Value: $750
Number: 2
Conditions: Open to graduate and undergraduate students working in the field of wildlife biology or entomology of the north; to be used in support of summer research. When conditions warrant the same student in a given year can have both awards, totalling $1,500.
Donor: Endowed by friends of Max and Marjorie Ward.
Apply: Chair, Department of Zoology or Entomology by April 1.

The Libby Ritter Warick Memorial Graduate Travel Bursary

Field: Nursing Science
Value: $750
Number: 1
Conditions: To be awarded annually to a graduate student in the Nursing Science program to attend a conference as either a participant or presenter. Selection will be based on an assessment of the value of the award to the recipient's research and/or future career aspirations.
Donor: Endowed by the family and friends of the late Libby Ritter Warick, a graduate of the Nursing Program at the University of Alberta.
Apply: By nomination from the Faculty of Nursing.

The Dr Carl H Westcott Memorial Fellowship

Field: Physics
Number: 1
Value: $4,000
Conditions: Open to a Canadian or Landed Immigrant graduate student at any university doing research at TRIUMF or on TRIUMF associated projects.
Donor: Mrs Kathleen B. Westcott, in memory of her late husband Carl, whose field of research was TRIUMF-related.
Apply: To the Director of TRIUMF by March 31. Awarded on the recommendation of a TRIUMF consortium committee.

The Western Industrial Research and Training Centre Scholarship

Field: Occupational Therapy
Value: $400
Number: 1
Conditions: To be awarded annually on the basis of high academic standing to a student in the second year of a Masters program in Occupational Therapy who is undertaking research in the field of Vocational Rehabilitation.
Donor: Endowed by Western Industrial Research and Training Centre.
Apply: By nomination from the Department of Occupational Therapy.

The Eoin L Whitney Scholarships

Field: Mathematics
Value: Variable
Number: Variable
Conditions: To be awarded to outstanding students in the PhD program in Mathematics who have a wide variety of academic interests and have passed their qualifying exams. Full or partial scholarships may be awarded by the Department of Mathematics. It is intended that awards will be used to futher the student's research program in the following manner: reduction of duties, thesis preparation, travel, purchase of books, etc.
Donor: Endowed by the family, colleagues and friends of the late Professor Eoin L Whitney.
Apply: Nominated by the Department of Mathematics.

The Henry Wojcicki Scholarship

Field: Psychiatry
Value: To be determined
Number: 1
Conditions: To be awarded annually to a resident in Psychiatry with a demonstrated proficiency in transcultural and/or epidemiological Psychiatry.
Donor: The Department of Psychiatry and friends and associates of Dr Henry Wojcicki upon his retirement from active participation in the Psychiatry teaching program.

The Janet Sleigh Baxter Wright Scholarship

Field: Early Childhood Education
Number: 1
Value: $250
Conditions: The Janet Sleigh Baxter Wright Scholarship shall be awarded annually to an individual in post-graduate studies in Early Childhood Education (education of children aged birth to 8 years) at the University of Alberta. The recipient must be Canadian and must have the desire and intention to teach children aged birth to 8 years when the course of studies is completed. The award should be made to the person who best fulfills the

following criteria: (1) demonstrated ability and interest in teaching children aged birth to 8 years (as shown by written application, two letters of reference, and an interview, if necessary), (2) excellent academic record.
Donor: Endowed by the members and alumni of the Springhill Nursery School Society.
Apply: By nomination from the Department of Elementary Education.

The RJS (Robert) and Ada Maude Wright Memorial Prize in Radiology and Diagnostic Imaging

Field: Radiology and Diagnostic Imaging
Value: To be determined, subject to earnings on endowment
Number: 1
Conditions: To be awarded annually to a Radiation Oncology resident on the basis of outstanding merit, demonstrated skills, and research ability in the area of Radiation Oncology. Should there be no suitable candidate, no award will be given.
Donor: Endowed by Mrs Charlotte A Caddel in memory of her parents, Mr RJS (Robert) Wright and Mrs Ada Maude Wright.
Apply: By nomination from the Department.

The Harvey Zingle Scholarship in Counselling Psychology

Field: Counselling Psychology within the Department of Educational Psychology
Value: $800
Number: 1
Conditions: Based on high academic standing, this scholarship is annually awarded to a student enrolled in the MEd or PhD Counselling Psychology program. Some consideration will be given to financial need.
Donor: Friends of Harvey Zingle, Chair of the Department of Educational Psychology from 1978 - 1987.
Apply: To the Department of Educational Psychology by May 20.

Other Financial Assistance

Refer to §201.5 for information regarding graduate assistantships, markers and demonstrators, and other forms of financial assistance.

224.3 Postdoctoral Fellowships

AOSTRA Postdoctoral Fellowships

Field: Development of the Oil Sands
Value: $21,500 first year; $23,000 second year, $24,500 third year
Number: Variable
Conditions: To be awarded to outstanding applicants who submit a suitable proposal for a research project to be conducted in a field related to the development of oil sands in Alberta.

These fellowships, which will be granted on merit only, based on the clarity of the proposal, are tenable at the Universities of Alberta, Calgary, or Lethbridge.

These awards are restricted to persons who are Canadian Citizens or Landed Immigrants at the time of application.

There is a moderate research allowance with each fellowship. A report must be submitted, demonstrating satisfactory progress, at the end of each year.

Prospective applicants for these awards should discuss their intentions with their department chairs.
Donor: Alberta Oil Sands Technology and Research Authority.
Apply: Director of Student Awards by February 15 for awards tenable May 1 or September 1, and September 1 for awards tenable on January 1 of the next year.

The ATRC Postdoctoral Telecommunications Research Award

Field: Development of engineering applications in telecommunications through disciplines of engineering, computing sciences and other fields.
Value: $20,000 Canadian per annum renewable for one year subject to advancement in research endeavors
Number: 1
Conditions: Awarded to individuals who have a PhD degree in a relevant discipline. Award is offered on the basis of proven research performance, letters of recommendation and suitable proposal for research in telecommunications compatible with the ATRC program. Candidates must undertake their research work at ATRC.
Donor: The Alberta Telecommunications Research Centre (ATRC) has established this award to promote, and advance technological innovations in the telecommunications field by joint participation between academic and industrial researchers.
Apply: Mr WL Olsen of the Alta Telecommunications Research Centre, #200, 4245 - 97 Street, Edmonton, Alberta T6E 5Y4.

Izaak Walton Killam Memorial Postdoctoral Scholarships

Scholarships are available in most fields of study. The value is $28,000 per year plus travel expenses in the amount of return economy air fare for the holder. There is also a $2,000 research grant attached to the award. Appointments are for two years. Departments may offer an additional stipend of up to $5,000 if the Scholar teaches a full formal course as part of his duties. These awards are tenable only at the University of Alberta and students who have achieved their Doctor's degree from this University are not eligible. Tenure must be taken up not later than the following January 1 or (September 1, if a course is being taught).

Application forms may be obtained from the Secretary, Killam Scholarship Committee, Room 252, Athabasca Hall, The University of Alberta. and must be returned complete with curriculum vitae, transcripts of academic record and three Letters of Recommendation by January 2.

J Gordin Kaplan Memorial Postdoctoral Fellowship

Field: Humanities and Social Sciences, Medicine, Science and Engineering.
Value: $32,000 per annum. Tenable for two years at the University of Alberta for research in the humanities and social sciences, medicine, science and engineering. The Fellow may teach one half course per year, but must concentrate primarily on research.
Conditions: Applicants should have recently completed the PhD degree. (Although it is not necessary to have completed the degree at the time of application, no award can be taken up prior to completion.)
Donor: The J Gordin Kaplan Postdoctoral Fellowships have been established to honor the memory of a foremost Canadian scientist by bringing to the University of Alberta beginning scholars who are likely to continue the outstanding academic achievement associated with the late Dr Kaplan.
Apply: Office of Student Awards, 252 Athabasca Hall, University of Alberta, Edmonton, Alberta, Canada, T6G 2E8, by January 2. Applications are contingent on department nomination which occurs after application has been made.

Grant Notley Memorial Postdoctoral Fellowship

Field: Polity, History, Economy or Society of Western Canada or related fields.
Value: $28,000 per annum. Tenable for two years at the University of Alberta for research in the polity, history, economy or society of Western Canada or related fields. The Fellow may teach one half course per year, but must be primarily an investigative scholar. A travel and/or research grant of $2,000 ($1,000 per annum) accompanies the award.
Number: 1
Conditions: Applicants should have recently completed the PhD degree. (Although it is not necessary to have completed the degree at the time of application, no award can be taken up prior to completion. Recent University of Alberta PhD's are not normally eligible.)
Donor: Endowed by family, friends and colleagues in memory of Grant Notley.
Apply: Office of Student Awards, 252 Athabasca Hall, University of Alberta, Edmonton, Alberta, Canada, T6G 2E8, by January 2. Applications are contingent on department nomination which occurs after application has been made.

225 Graduate Awards Made by Other Agencies

225.1 Introductory Note

It is requested that any student receiving one of the awards listed in the following section report the fact to the Director of Student Awards as a matter of information.

Graduate awards in Agriculture, Dentistry, Law, Home Economics, Medicine, Nursing, Pharmacy, and Social Work are not listed in §§225.2 or 225.3 but in a special section, §225.4.

225.2 Awards Tenable at the University of Alberta or Elsewhere

Refer also to §§225.3 and 225.4.

The Alberta Egg Producers Scholarship

Field: Poultry Science
Value: $2,500
Number: 1
Conditions: To be awarded to a student who is undertaking research in the field of Poultry Science.
Apply: Alberta Egg Producers Board 15, 1915 - 32 Avenue, S.E. Calgary, Alberta T2E 7C8 by May 31.

The John Walker Barnett Fellowship in Education
The FJC Seymour Fellowship in Education

Valued at $6,000 each these awards are offered to residents of Alberta, who are members or associate members, of the Alberta Teachers' Association, have a permanent Alberta Teaching Certificate and who are admitted to the Faculty of Graduate Studies of any recognized university for intramural study at a regular winter session on a doctoral program in education.

Application forms are obtainable from the Scholarship Committee, Alberta Teachers' Association, Barnett House, 11010-142 Street, Edmonton T5N 2R1, and should be returned by February 28.

The Canadian Institute of Ukrainian Studies Master's Fellowship

Field: Ukrainian studies
Value: $4,500
Number: 2
Donor: Canadian Institute of Ukrainian Studies.
Apply: Canadian Institute of Ukrainian Studies.

Canadian Institute of Ukrainian Studies Doctoral Fellowships

Field: Ukrainian Studies
Value: $8,000
Number: 3
Donor: Canadian Institute of Ukrainian Studies.
Apply: Canadian Institute of Ukrainian Studies.

The Canadian Steel Casting Research Group Award

Number: 2
Conditions: $1,000 award for the most significant contribution to the strand casting of steel for a paper conducted by a post-graduate student of a Canadian University. $500 award for the best undergraduate paper prepared on studies carried out on the strand casting of steel.
Apply: Mr Jim Kamal, Chair, Canadian Continuous Steel Casting Research Group, P.O. Box 501, Lorigal, Ontario, K0B 1K0. Closing Date: Submit three copies of paper, along with a covering letter from Department Chair by July 1.

The Sir James Lougheed Awards of Distinction

Field: Open
Value: $10,000 or $15,000
Number: Variable
Conditions: Named in honor of Sir James Lougheed, noted Albertan, senator and parliamentarian, these awards recognize academic excellence and provide for advanced study anywhere in the world. Awards are valued at $10,000 at the master's level and $15,000 at the doctoral level. Alberta residents only.
Donor: The Alberta Heritage Scholarship Fund.
Apply: By February 1, to the Director, Alberta Heritage Scholarship Fund, Students Finance Board, 10th floor, Baker Centre, 10025 - 106 Street, Edmonton, Alberta, T5J 1G7

The Gulf Canada Limited Graduate Fellowships

Ten fellowships of $8,000 to the student plus $1,000 to the department of the university, will be offered annually and are open to residents of Canada (Citizens or Permanent Residents, Landed Immigrants) with one year's residence at the date of application) who are graduates of a Canadian university, for graduate study in Engineering, Computer Sciences, Geology, Geophysics, Chemistry, Physics, Mathematics, Business Management Studies or ecologically oriented studies at a Canadian university.

Application forms may be obtained from Canadian Awards Officer, Association of Universities and Colleges of Canada, 151 Slater Street, Ottawa K1P 5N1, and must be filed complete by February 1.

Wilfrid R May Scholarships for Career Development

Field: Open
Value: $10,000 or $15,000
Number: 20
Conditions: Named in honor of the legendary Canadian aviator and bush pilot, these scholarships recognize excellence by professionals, administrators and managers in their work. Awards are valued at $10,000 at the master's level and $15,000 at the doctoral level. Alberta residents with a three year continuous work record in the province are eligible.

The application deadline is February 1.

For further information and applications contact: Director Alberta Heritage Scholarship Fund Students Finance Board 10th Floor, Baker Centre 10025 - 106 Street Edmonton, Alberta T5J 1G7 Telephone: 427-8640.

National Health Research and Development Program

Field: Public health or health care
Value: $18,000 stipend and $1,800 research/travel allowance
Qualifications: Preference given to candidates seeking training in Canada, MSc or PhD.
MSc Fellowships – up to 2 years.
PhD Fellowships – up to 4 years.
Must be Canadian Citizens or legally Landed Immigrants, have a high academic standing and:
(1) must hold a Bachelor's degree or equivalent or
(2) must hold a health professional degree or
(3) must already be engaged in a Master's or PhD program.
Donor: Health and Welfare Canada.
Deadline: February 15.
Contact: Extramural Research Programs Directorate, Health Services and Promotion Branch, Health and Welfare Canada, Ottawa, Ontario K1A 1B8 Telephone (613) 954-8549.

The Natural Sciences and Engineering Research Council Awards

The Natural Sciences and Engineering Research Council offers postgraduate awards annually to students of outstanding ability in the areas of natural sciences and engineering.

(1) Scholarships of $13,500 over 12 months for students in their first or second year of graduate studies. Scholarships of $15,000 over 12 months for students in the third or fourth year of graduate studies in a PhD program.
The scholarships are tenable in Canada (tenure abroad only in special cases).
(2) 1967 Science and Engineering Scholarships of $18,600 per year for three years, 55 only on a university nominated basis.
(3) Postgraduate Scholarships in Science Librarianship and Documentation
These scholarships are open to persons with a bachelor's degree in science or engineering, who are interested in a career as a science librarian, document analyst or science information specialist. The object of the program is to enable such persons to undertake a year of specialized training in a recognized School of Library Science and Documentation. A limited number are available annually.

Application forms and general regulations may be secured from the Director of Student Awards, the University of Alberta. These will be distributed to departments concerned each year as they are received from the Council. The application date will be about mid-November.

The Doctor Jean C Nelson Memorial Award

The purpose of the Doctor Jean C Nelson Memorial Award is to assist the recipient to pursue graduate study related to community health. To honor Dr Nelson's commitment to the health of children, the Awardsis particularly intended to provide opportunity to study in fields related to services for children. Although the annual award is tenable at any recognized university, its intent is to further the quality of community health services in Alberta.
Value: At least $3,000
Conditions:
(1) Must hold an undergraduate degree from a recognized university or college.
(2) Must currently be enrolled in, or have applied for, the proposed graduate program and been accepted prior to receipt of the award monies.
(3) Must have satisfactory references.
(4) Preference will be given to persons who:
a. are Albertans and/or are planning to serve in a health-related position in Alberta;
b. have had experience in the field of community health and/or paediatrics;
c. are, or have been members of the Alberta Public Health Association or the Canadian Public Health Association.

Apply: Application forms are available from The Doctor Jean C Nelson Memorial Foundation c/o Edmonton Board of Health Suite 500, 10216 - 124 Street Edmonton, Alberta T5N 4A3.

The Siobhan Isabella Reid Memorial Scholarship

Field: Any faculty at an Alberta university
Value: Not less that $500
Number: 2 per year
Conditions: The student should be enrolled in a program which will lead to the individual being able to assist children and adults with learning disabilities.
The students must have completed two (2) full academic years either at a university or a junior college at which courses are acceptable by a university as applicable to a university degree.
During the scholarship year the student must be enrolled in a program which will lead to that individual being able to assist children and adults with learning disabilities.
Donor: Alberta Association for Children and Adults with Learning Disabilities.
Apply: By May 30 to: Learning Disabilities Association of Alberta. #1208, Baker Centre 10025-106 Street Edmonton, Alberta, T5J 1G9.

The Social Sciences and Humanities Research Council Awards

These are provided in the fields of the arts (defined as architecture, the arts of the theatre, literature, music, painting, sculpture, the graphic arts and other similar creative and interpretative activities), the humanities and the social sciences, including education, business administration, law and physical education.

Doctoral Fellowships. Values of up to $12,720 (under review) for students in doctoral programs.

Candidates must have completed at least one year of doctoral study by the date of taking up an award or provide evidence that they will have completed a Master's degree. Applicants must be Canadian Citizens or a Permanent Resident (Landed Immigrant) at the time of application. (For study abroad one must have held such status for one year prior, and fulfill certain other conditions.)

Application forms and general regulations will be distributed to departments concerned each year as they are received from the Council by the Director of Student Awards. The application date will likely be about November 15.

The Ralph Steinhauer Awards of Distinction

Field: Open
Value: $10,000 or $15,000
Number: 20
Conditions: These awards honor the man who served as Alberta's Lieutenant-Governor from 1974 to 1979. They provide recognition of exceptional academic achievement and are for study in Alberta. Awards are valued at $10,000 at the master's level and $15,000 at the doctoral level. Open to all Canadians.
Donor: The Alberta Heritage Scholarship Fund.
Apply: By February 1, to the Director, Alberta Heritage Scholarship Fund, Students Finance Board, 10th floor, Baker Centre, 10025-106th Street, Edmonton, Alberta, T5J 1G7

The JH Stewart Reid Memorial Fellowship

$5,000 is offered annually in any field of graduate study by the Canadian Association of University Teachers. Applicants must be Canadian Citizens or have held Permanent Resident (Landed Immigrant) status for one year prior to application; completion of at least one full academic year of graduate work by June 3; a satisfactory academic record.

Apply to Awards Officer, Canadian Association of University Teachers, 75 Albert Street, Suite 1001, Ottawa, Ontario, K1P 5E7.

225.3 Awards Tenable Only at Other Institutions

The Commonwealth Scholarships

This is a joint plan to exchange approximately one thousand postgraduate students within the Commonwealth. Each Commonwealth country accepts and provides for a certain number of students from other Commonwealth countries. Scholarships are normally for a period of two years and cover all expenses and travel. Recipients need not be working towards a degree in the other country, but may be doing a year or more of research towards a degree from their home University.

Application dates vary for different countries, especially those in the Southern Hemisphere. Application date for those tenable in the United Kingdom will be October 31 of the year preceding the one in which the award is tenable.

Apply for information to the Canadian Commonwealth Scholarship and Fellowship Committee, c/o Association of Universities and Colleges of Canada, 151 Slater Street, Ottawa, Ontario, K1P 5N1.

The Edmonton Churchill Scholarship

The Rt Hon Sir Winston Churchill Society of Edmonton, Canada, offers a scholarship in the amount of $20,000 per annum (reduced by $5,000 for each other major award held by a scholar) tenable at Churchill College, Cambridge, to a graduate of the University of Alberta to enable the student to carry on advanced study in the field of energy. The award will normally be made to a student immediately on completion of a Bachelor's or Master's degree, although candidates who have spent one or more years in industry following graduation may also be considered.

Funds for the award have been made available through the Churchill Foundation from contributions made by members of the Churchill Society and Friends and by the Government of Alberta.

Applications by letter, should be made to the Dean, Faculty of Engineering, University of Alberta, Edmonton, by January 15 each year.

The Foreign Government Awards Program

Field: Various disciplines
Value: Variable
Number: Variable
Conditions: Awards are intended to assist Canadian students to further their studies or conduct research abroad at the master's, doctoral, or post-doctoral level. All applicants must be Canadian Citizens. For most countries, applicants must have completed a first degree or, for post-doctoral fellowships, a PhD by the beginning of the tenure of the award. Candidates are required to have a sound working knowledge of the relevant language of instruction.
Where tenable: Any University in Argentina, Austria, Belgium, Columbia, Denmark, Finland, France, Germany, Hungary, Mexico, The Netherlands, Norway, Poland, Portugal, Spain, Switzerland, and Yugoslavia.
Donor: International Council for Canadian Studies and the offering countries.
Apply: Program Officer, Foreign Government Awards program, International Council for Canadian Studies (ICCS), 2 Daly Avenue, Ottawa, Ontario, Canada, K1N 6E2. Telephone (613) 232-0417. Applications must be received by the ICCS by October 15.

The IODE War Memorial For Graduate Study Scholarships

The Imperial Order Daughters of the Empire offers a number of scholarships for graduate study in any university in the British Commonwealth. Values are $8,500 in Canada and $12,000 for overseas study. Holders may apply for renewal for a second year at a reduced value.

Fields of study are any subjects vital to the interest of the Commonwealth.

Applicants must be Canadian Citizens and have passed their twentieth, but not their thirty-fifth birthday on December 31 of the year of tenure. They must hold a degree from a Canadian university and must have done or be doing postgraduate work. Candidates must apply in the province in which the university is situated from which he or she has graduated, irrespective of place of residence. Deadline: December 1. Contact the Student Awards Office for current contact person.

The Mackenzie King Scholarships

Several scholarships of up to $7,000 each will be offered to graduates of Canadian universities for post-graduate study in the United States, Canada, United Kingdom, or elsewhere in the field of International or Industrial Relations (including Law, History, Politics or Economics) or other programs.

Personal qualities and aptitudes will be considered as well as academic standing.
Apply to: Director of Student Awards by February 1 on the Mackenzie King Scholarship application form.

The Rhodes Scholarship

This scholarship is valued at least at £10,000 per annum and is tenable at the University of Oxford for two years (with possible renewal for a third year).

Applicants must be unmarried Canadian Citizens or British subjects with at least five years residence in Canada and must have passed their nineteenth, but not their twenty-fifth birthday on October 1 of the year of tenure. They must have completed at least three years at a Canadian university by the date of tenure. Application may be made either in the province of residence or in the province in which the university being attended is situated.

Qualities of character and interest in athletics will be considered as well as academic standing.

The date of application is approximately October 25. Further particulars may be secured from the Student Awards Office or from Professor David Jones, c/o Faculty of Law, The University of Alberta, Edmonton, Alberta.

The Rotary Foundation Graduate Scholarships

Field: Open. Level of Study: Postgraduate.
Value: Round-trip transportation between scholar's home and study city, all required academic fees, some necessary educational supplies, on-campus double-occupancy room, on-campus board, limited educational travel, and limited contingency expenses. Awarded for one academic year (usually nine months) and is not renewable.
Conditions: Must complete a Bachelor's degree or equivalent before commencement of scholarship duties; age as of October 1, 1986 is 18 through 30 inclusive; may be married but spouse's expenses not paid; proficiency in native language of host country; citizen of a country in which there is a Rotary Club; cannot accept additional funding without approval by the Rotary Foundation; cannot accept full-time employment in host country.
Where tenable: A country in which there are Rotary clubs, but not in the country of the sponsoring Rotary Club. Applicants are strongly encouraged to study in a country where they have not previously lived or studied.
Donor: The Rotary Foundation of Rotary International.
Apply: All applicants must check with their club and district of application to determine local application deadlines. Further information: Further information and application

forms should be requested from Rotary Club of Edmonton, Ste 403, Chateau Lacombe, 101 Street at Bellamy Hill, Edmonton, Alberta, T5J 1N7.

25.4 Graduate Awards In Special Fields

25.4.1 Agriculture

anadian Wheat Board Fellowships
lue: $11,000 each in the first year; $12,000 each in the second year; $13,000 each in the third year
mber: 2 in each year
The Canadian Wheatboard has undertaken to provide o fellowships for students in the PhD program which are nable at the University of Alberta. One of these will be arded to a student involved in full-time study or research cereal breeding, the other will be tenable by a student olved in a grain-related research program. Each felwship awarded will normally be available over a threear period, given satisfactory academic and research ogress by the recipient. The fellowships will be awarded the basis of the qualification of the graduate students d the merit of the research projects proposed.
Apply to the Dean, Faculty of Agriculture and Forestry December 1.

e "Her Majesty Queen Elizabeth the Queen other" Scholarship
ld: Agriculture, Agricultural Engineering, Home Ecoomics, Veterinary Medicine
lue: $1,500
nditions: To be awarded to students, who have been esidents of Alberta for the previous three years, and who are in years one to four of programs leading to a achelor's degree in agriculture, agricultural engineering, ome economics, or a doctor of veterinary medicine large animal) program. Selection will be based on cademic performance, leadership and contribution to he community. Recipients may receive this award one ime only. Selection committee decision is final. Three cholarships will be available each year until 1994.
here tenable: At any University in Canada.
nor: Alberta Agriculture.
ply: To Alberta Agriculture by July 15. Application forms vailable from Dean of Agriculture and Forestry and Dean of Home Economics.

25.4.2 Business

e Institute of Chartered Accountants of berta: (ICAA) Doctorate Financial Support ogram
ld: PhD Accounting
lue: $5,000 to $15,000 per year for up to five years
nditions: The financial support is to be given in the form f a forgivable loan. The terms of forgiveness are that he program be successfully completed and that the candidate be required to teach accounting at an Alberta niversity one year for each year of funding to a naximum of three years.
nor: The Institute of Chartered Accountants of Alberta.
ply: Preferably by January 31 preceding the funded cademic year; to Mr Duncan L Green, CA, The Accounting Education Foundation of Alberta, 901 Toronto Dominion Tower, Edmonton Centre, Edmonton, Alberta, T5J 2Z1. **Note:** The prospective candidate need not attend the University of Alberta.

e William S McGregor Award for trepreneurial Excellence
ld: Business
lue: $1,500
mber: 1
nditions: To be awarded to a full-time student in the MBA Program who exemplifies exceptional entrepreneurial achievements within the bounds of the Faculty of Business or outside the Faculty while enrolled in the MBA Program. Nominations for the award may come rom students and/or Faculty members. A committee will e selected annually by the Dean of the Faculty to eview the credentials of candidates and select the ecipient of the award.
nor: Mr William S McGregor.
ply: By nomination of the Faculty of Business.

e Social Sciences and Humanities search Council (SSHRC): - of Canada ategic Grants Program for Developing nagement: - Research
ld: PhD Business
ue: Approximately $18,500/year.
nditions: Recipients must have held full time positions r three years, at a Canadian business faculty and must ave completed one year of doctoral study in Business.

The Suncor Inc Fellowship
Field: PhD Business
Value: $10,000 per year
Number: 1
Conditions: A recipient may receive only one award of $10,000, and preferably will have completed the second year as a provisional doctoral student. The recipient must be a Canadian Citizen or Landed Immigrant.
Apply: Prior to May 1 to the PhD Program Advisory Committee.

225.4.3 Dentistry

Alberta Heritage Medical Research Studentships
See under 225.4.8 Medicine.

The Medical Research Council of Canada Awards
Studentships are available from the Council for highly qualified holders of a BSc to do Master's or PhD work in a basic science in a department of a Faculty of Medicine, Pharmacy or Dentistry.
Holders of a professional degree, or of a PhD degree in a basic science, may apply under the Council's fellowship program for further training or research.
Further information may be obtained from the Dean's office. All applications are to be forwarded to the Secretary, Medical Research Council, Montreal Road, Ottawa K1A 0R6.

225.4.4 Home Economics

The Ruth Binnie Scholarship
Value: $3,000 each for full-time graduate study, proportionate sums for part-time study
Number: 2
Conditions: For a graduate in Home Economics or Home Economics Education, holder of a professional teaching certificate, who is a Canadian Citizen or a Landed Immigrant. First consideration will be given to applicants proceeding towards a Masters in Education on a full-time basis. Second consideration will go to part-time students and scholarship monies will be prorated. Third consideration will go to PhD applicants planning to return to University teaching in Home Economics education. The award will be based on scholarship, personal qualities, contributions toward Home Economics education in junior or senior high school and potential in the education field.
Donor: Established at the behest of the late Miss Ruth Binnie of Halifax to promote and encourage the quality of Home Economics education in Canada.
Apply: Canadian Home Economics Association, 151 Slater Street, Suite 805 Ottawa, Ontario K1P 5H3. Application deadline is October 31.

The Carnation Company Incentive Award
Value: $750
Number: 1
Conditions: For a graduate in Home Economics, who is a Canadian Citizen or a Landed Immigrant and who is undertaking post graduate study in foods. The award will be made on the basis of academic achievement, personal qualities, financial need and an intended career in the food industry.
Donor: The Carnation Company.
Apply: Awards Selection Committee, Canadian Home Economics Association, 151 Slater Street, Suite 805, Ottawa, Ontario K1P 5H3. Application deadline is January 15.

The Mary A Clarke Memorial Scholarship
Value: $3,000
Number: 1
Conditions: For a graduate in Home Economics who is a Canadian Citizen or a Landed Immigrant and who is undertaking graduate study proceeding to a higher degree. The award will be based on scholarship, personal qualities, past and/or potential contributions to the profession of Home Economics and financial considerations.
Donor: Established by the CHEA Scholarship Fund as a tribute to Mary Clarke, a valued member of the Canadian Home Economics Association and its President from 1952-54.
Apply: Awards Selection Committee, Canadian Home Economics Association, 151 Slater Street, Suite 805, Ottawa, Ontario K1P 5H3. Application deadline is January 15.

The "Her Majesty Queen Elizabeth the Queen Mother" Scholarship
Field: Agriculture, Agricultural Engineering, Home Economics, Veterinary Medicine
Value: $1,500
Conditions: To be awarded to students, who have been residents of Alberta for the previous three years, and who are in years one to four of programs leading to a bachelor's degree in agriculture, agricultural engineering, home economics, or a doctor of veterinary medicine (large animal) program. Selection will be based on academic performance, leadership and contribution to the community. Recipients may receive this award one time only. Selection committee decision is final. Three scholarships will be available each year until 1994.
Where tenable: At any University in Canada.
Donor: Alberta Agriculture.
Apply: To Alberta Agriculture by July 15. Application forms available from Dean of Agriculture and Forestry and Dean of Home Economics.

The Robin Hood Multifoods Limited Award
Value: $1,000
Conditions: For a graduate in Home Economics who is a Canadian Citizen or a Landed Immigrant and is undertaking graduate study leading to an advanced degree. The award will be based on academic achievement, personal qualities, past and/or potential contributions to the Home Economics profession. Preference will be given to the person planning a career in business, in the consumer service (foods) field of food service management.
Donor: Robin Hoods Multifoods Limited.
Apply: Canadian Home Economics Association 151 Slater Street, Suite 805 Ottawa, Ontario, K1P 5H3

The Silver Jubilee Scholarship
Value: $3,000
Number: 1
Conditions: For a graduate in Home Economics who is a Canadian Citizen or a Landed Immigrant and who is undertaking graduate study proceeding a higher academic degree. The award will be based on scholarship, personal qualities, past and/or contributions to the profession of Home Economics, and financial considerations.
Donor: Established by the CHEA Scholarship Fund to commemorate the twenty-fifth anniversary of the founding of the Canadian Home Economics Association.
Apply: Canadian Home Economics Association, 151 Slater Street, Suite 805, Ottawa, Ontario K1P 5H3. Application deadline is January 15.

225.4.5 Interdisciplinary Studies

The Canadian Institute of Ukrainian Studies Master's and Doctoral Thesis Fellowships
Field: Ukrainians or Ukrainians in Canada in Education, History, the Humanities, Law, the Library Sciences, and the Social Sciences
Value: Master's $4,500, non-renewable; Doctoral $8,000, renewable
Number: 2 Masters'; 3 Doctoral
Conditions: The awards are intended to aid students to complete theses on Ukrainian or Ukrainian-Canadian topics in the above disciplines. Fellowships will be awarded only in the thesis year of an academic program and only for thesis work. Candidates must be Canadian Citizens or Permanent Residents (Landed Immigrants) at the time of application. Only in exceptional circumstances may an award be held concurrently with other awards.
Where tenable: Any institution of higher learning in Canada or elsewhere. Application deadline: January 31 for the following academic year.
Apply: The Canadian Institute of Ukrainian Studies, 352 Athabasca Hall, The University of Alberta, Edmonton, Alberta, T6G 2E8.

225.4.6 Law

The Viscount Bennett Fellowship
Under the terms of a deed of gift to the Canadian Bar Association from the Right Honorable Viscount Bennett, PC, KC, LLD, DCL, the Viscount Bennett Trust Fund has been established to encourage a high standard of legal education, training, and ethics. The annual income from this fund is administered by the Canadian Bar Association.
An award of not less than $16,000 may be paid annually to a student for graduate study at an institution of higher learning approved by the Viscount Bennett Fellowship Committee on the condition that the award be the only fellowship, scholarship or grant accepted by the winner for the graduate period.
The fellowship is open to persons who are Canadian Citizens and who have graduated from an approved law school in Canada or who at the time of application are pursuing final year studies as undergraduate students at an approved law school.
Applications shall be in writing to the Communications Director of the Canadian Bar Association and received not later than December 15th of the year previous to that in which the award is to be made.
For application information write the Senior Director of Communications, Canadian Bar Association, 1700-130 Albert Street, Ottawa, Ontario K1P 5G4.

The Viscount Bennett (Law Society of Alberta) Graduate Scholarship

$2,500 is made available from a Trust founded by the late Viscount Bennett. It is offered to graduates of the Faculty of Law, The University of Alberta, for postgraduate study in Law at The University of Alberta or at another recognized institution. Applicants should state an intent to return to Alberta following such study.

Apply to the Dean, Faculty of Law, by February 1.

The Duff-Rinfret Scholarship Program

This program offered by the Ministry of Justice in honor of Chief Justice Duff and Chief Justice Rinfret provides for a scholarship to enable a graduate from a Canadian law school to undertake graduate studies in Canada. The scholarship is worth $9,000 plus tuition fees and travelling expenses and lasts for twelve months, but short renewal may be possible in some cases.

Apply to the Dean, Faculty of Law, for details.

The Sandra Garvie Memorial Fund

An award of a value of up to $1,000 has been created to assist an individual to pursue a course of studies or to undertake research into the library or information aspects of public legal education. The purpose of the grant is to encourage individuals to improve their knowledge of this field and, in turn, to add to the existing body of knowledge in this area. Candidates may be enrolled in a formal course of study or may undertake an independent learning activity. Apply to the Sandra Garvie Memorial Fund, c/o Lois Gander, Director, Legal Resource Centre, Faculty of Extension, University of Alberta, 10049-81 Avenue, Edmonton, Alberta T6E 1W7. Deadline for Applications is June 30 of each year.

225.4.7 Library Science

The Baker & Taylor Company Prize in Technical Services

Value: A plaque and a book up to $50 in value (design of the plaque and a choice of the book by the Faculty of Library Science)
Number: 1
Conditions: To be awarded to a graduating student who has specialized in technical services and who has demonstrated outstanding performance and professional potential.
Donor: The Baker & Taylor Company.
Apply: By nomination from Faculty/Department.

The Canadian Library Association Dafoe Scholarship

Value: $1,750
Number: 1
Conditions: To be awarded on the basis of academic standing and financial need to a Canadian Citizen or Permanent Resident (Landed Immigrant) for entrance to an accredited Canadian library school.
Donor: Education Endowment Foundation Fund. Continuing Education Grants.
Apply: Scholarships and Awards Committee, Canadian Library Association, 200 Elgin Street, Suite 602, Ottawa, Ontario, K2P 1L5, by March 1.

The Sandra Garvie Memorial Fund

An award of a value of up to $1,000 has been created to assist an individual to pursue a course of studies or to undertake research into the library or information aspects of public legal education. The purpose of the grant is to encourage individuals to improve their knowledge of this field and, in turn, to add to the existing body of knowledge in this area. Candidates may be enrolled in a formal course of study or may undertake an independent learning activity. Apply to the Sandra Garvie Memorial Fund, c/o Lois Gander, Director, Legal Resource Centre, Faculty of Extension, University of Alberta, 10049-81 Avenue, Edmonton, Alberta T6E 1W7. Deadline for Applications is June 30 of each year.

The Library Association of Alberta

Value: Not to exceed $500
Number: Variable
Conditions: Awarded to (a) students pursuing further formal education, either librarians with BLS qualifications wishing to attain an MLS or students entering the second year of their programs; (b) students requiring financial assistance to attend conferences, workshops or seminars; (c) students engaged in research, a special project or work/job exchange that will benefit the development or improvement of the Alberta library scene.
Donor: The Library Association of Alberta
Apply: Education Endowment Fund Committee, Library Association of Alberta, P.O. Box 1357, Main P.O., Edmonton, Alberta T5J 2N2 prior to March 1.

Library Association of Alberta Education Endowment Fund Scholarship

Field: To provide Alberta residents with the opportunity to acquire education and training to enter into the profession of librarianship and to ensure the availability of professionally qualified people to contribute to the development of library service in the province.
Number: 1
Value: $1,500
Conditions: Resident of Alberta for the past six months; Canadian Citizen. Acceptance into a full time graduate level course of study leading to an MLS at an accredited library school, normally at a Canadian institution.
Apply: Deadline for applications is June 30. For application forms write to: Education Endowment Fund Committee, Library Association of Alberta, P.O. Box 1357, Main P.O., Edmonton, Alberta T5J 2N2.

Howard V Phalin-World Book Graduate Scholarship in Library Science

Value: Maximum $2,500
Number: 1
Conditions: The award must be used for a program of study or series of courses either leading to a further library degree or related to library work in which the candidate is currently engaged or to library work which will be undertaken on completion of the program or courses. The award is restricted to Canadian Citizens or Permanent Residents (Landed Immigrants).
Where tenable: At any accredited library school in either Canada or the United States.
Apply: Scholarships and Awards Committee, Canadian Library Association, 200 Elgin Street, Suite 602, Ottawa, Ontario K2P 1L5 by March 1.

HW Wilson Foundation Scholarship

Value: $2,000
Number: 1
Conditions: To be awarded on the basis of academic standing and financial need to a Canadian Citizen or Permanent Resident (Landed Immigrant) for entrance to an accredited Canadian library school.
Apply: Scholarships and Awards Committee, Canadian Library Association, 200 Elgin Street, Suite 602, Ottawa, Ontario K2P 1L5. Deadline for receipt of all scholarship and supporting documents: March 1.

225.4.8 Medicine

Alberta Heritage Medical Research Studentships

The Alberta Heritage Foundation for Medical Research, in carrying out its objective of advancement of medical research in Alberta, has developed a program of Medical Research Studentships to assist young scholars in the pursuit of a research career. The Foundation offers three types of studentships – one year, part-time, and summer studentships.

Application forms and descriptive brochures are available from the Foundation or the Faculty of Graduate Studies and Research Office.

Medical Research Council of Canada Awards

(See under §225.4.3 Dentistry above).

The Percy Hermant Fellowships in Ophthalmology

Two awards of $2,000 each will be offered annually by Imperial Optical Company to medical graduates of a Canadian university for further study in Ophthalmology at The University of Alberta, or at another approved institution. Applicants must indicate an intention to subsequently practice this specialty in Canada.

Apply to Chair, Department of Ophthalmology, The University of Alberta, Edmonton T6G 2E1, by March 1.

225.4.9 Northern Studies

Northern Science Training Grants, Supplementary Travel and Subsistence Grants

Field: Graduate Student Level Northern Studies
Value: Varies with research proposals submitted
Conditions: Grants will be awarded only to supervised graduate students (Canadian Citizens or Permanent Residents) at the University of Alberta who are conducting research in the "North." The definition of "North," for the purposes of the program, includes that part of Canada which lies north of the southern limit of the discontinuous permafrost zone (map available in Institute). Primary intention of the grant is to encourage the training of scientists in northern research and is intended to be a supplementary source of funds to initiate northern research, rather that to provide funds for continuing research.
Donor: Grant monies awarded to Boreal Institute for Northern Studies on application to Department of Indian and Northern Affairs Canada.
Apply: Applications available through Office of the Director, Boreal Institute for Northern Studies, CW401L Biological Sciences Building. Applications are due in the Institute by November 15 of any year, tenable for the field season commencing April 1 of the following year.

Circumpolar/Boreal Alberta Research Fund Grants

Field: Northern Studies conducted by supervised graduate students, post doctoral fellows, academic staff and/or qualified residents of Alberta, NWT and Yukon.
Value: Varies with research proposals submitted.
Conditions: Grants are tenable for two years (April 1 - March 31) and are intended to initiate and support northern research. Region of research includes northern Alberta, Yukon and NWT, with region of focus being the area of the Canadian Boreal forest, low and high arctic and mountain regions north of the southern boundary of Jasper National Park. Applications to conduct research in other regions of Canada will receive second priority and will be evaluated on the basis of their northern applicability. Additional priority given to applied and multidisciplinary research or applications stressing collaboration with other workers with the intent of enhancing multidisciplinary aspects of the research and optimizing financial expenditures.
Donor: Circumpolar/Boreal Alberta Research Fund Grant awarded by the Canadian Circumpolar Institute. (Conditional grant awarded to the Institute by the Government of Alberta.)
Apply: Applications available through the Office of the Director, Canadian Circumpolar Institute, 215 Central Academic Building. Applications are due in the Institute by November 15 of any year.

225.4.10 Nursing

Canadian Nurses Foundation

Scholarships and fellowships are awarded to outstanding Canadian registered nurses for full-time studies in nursing at baccalaureate, masters and doctoral levels. Amounts range from $1,500 to $5,000 for each academic year funded and the number of awards may vary from year to year subject to availability of funds. Applications must be submitted to CNF by April 15th each year.

For further information and for application forms write to the Canadian Nurses Foundation, 50 The Driveway, Ottawa, Ont. K2P 1E2.

Canadian Heart Foundation Nursing Research Fellowship

Value: $22,050
Conditions: Awarded on a competitive basis for support of qualified nurses undertaking training in some area of cardiovascular research leading to the attainment of a Master's or PhD degree in any recognized university.
Apply: Canadian Heart Foundation, 1200 - 1 Nicholas Street, Ottawa, Ontario, K1N 7B7. Applications should be submitted on or before December 1 for the following academic year.

Professional Training Grants

Return-in-service financial assistance is available for graduate nurses pursuing postgraduate study in specialized fields of nursing. Application should be made to the Director, Staff Development, Alberta Social Services and Community Health, 6th Floor, Seventh Street Plaza, 10030 - 107 Street, Edmonton, Alberta, T5J 3E4.

The Dr Mac Smith Memorial Scholarship

Financial assistance is available to nurses who are Canadian Citizens and a resident (of at least one year) in an area within fifty miles of Camrose, to pursue post-basic education at a University in Alberta or elsewhere.

For further details apply to: The Camrose Chapter AARN Scholarship Selection Committee 4209 - 64 Street Camrose, Alberta T4V 5L3

The University of Alberta Hospital School of Nursing Alumnae Association Scholarship

Financial assistance is available to graduates of the School to undertake postgraduate work in any field of nursing. Applications should be addressed to the Vice President (Nursing), University of Alberta Hospitals.

The University of Alberta Hospital Graduate Scholarship in recognition of Fiftieth Anniversary of the School of Nursing

Value: $1,000
Number: 1
Conditions: Awarded to a graduate of the University of Alberta Hospital who has been accepted in a University program for advanced study relevant to Nursing, at the Baccalaureate, Masters or Doctoral level.

Where tenable: Any recognized university.
Donor: The University Hospitals Board.
Apply: Vice-President – (Nursing), University of Alberta Hospitals, 8440-112 Street, Edmonton, Alberta T6G 2B7.

Victorian Order of Nurses For Canada Graduate Awards

Value: Up to $7,000
Conditions: May be awarded to assist nurses in completing master's preparation in an approved area of study. Nurses with a particular interest in care of the elderly and chronically ill, research methodology or health administration are given first consideration. Negotiated position with VON required to qualify.
Apply: Carole Préfontaine-Adolph, Director, Human Resources, VON for Canada, 5 Blackburn Avenue, Ottawa, Ontario, K1N 8A2.

225.4.11 Pharmacy

The Pfizer Research Scholarship

This scholarship of the value of $300 is offered annually to an outstanding graduate of The University of Alberta who is undertaking graduate work in the Faculty. Selection will be made by the Faculty.

Medical Research Council of Canada Awards

(See under §225.4.3 Dentistry above).

225.4.12 Rehabilitation Medicine

The Olds General Hospital Physiotherapists Award

Field: Physical Therapy
Value: $4,000
Number: 1
Conditions: Offered to a graduating physiotherapist in return for two years of full-time service with Olds General Hospital.
Donor: Olds General Hospital
Apply: Mr Garth Upton, Olds General Hospital, Bag 390, Olds, Alberta T0M 1P0, Telephone: 556-3381.

225.4.13 Social Work

The Mary A. Finlay Scholarship in Social Work

$2,000 is provided by the Robert Tegler Trust for study in Canada, the United Kingdom or the United States towards a master's or doctor's degree in Social Work or related fields.

Applicants must be residents of the Province of Alberta and recipients will be required to agree to work in their profession within the Province for at least two years immediately upon completion of their advanced study.

Apply in writing with two letters of recommendation to the Trustees of the Robert Tegler Trust, #200, 9943-110 Street, Edmonton, T5K 2N5, by June 3.

226 Faculty of Extension

The Ernest Newman Memorial Bursary

Field: Practicing Alberta municipal administrators.
Value: Maximum of $200
Number: Up to 6
Conditions: Successful candidates will demonstrate a commitment to a career in municipal administration, demonstrate a need for a bursary, and have established the use to which the bursary will be applied.
Donor: The Newman Estate, contributions from Alberta Urban Municipalities, the Faculty of Extension and the University of Alberta.
Apply: Apply to Local Government Studies Office on the bursary submission form no later than June 9.

The William F Lede Memorial Bursary

Field: Category 1 - Students in the final year of pre-service study. Category 2 - Practitioners - continuing professional education.
Value: $1000 for tuition and fees or travel stipend
Number: 2, normally 1 in each category
Conditions: Category 1 - successful candidates will have clearly demonstrated the need for a bursary, provide evidence of academic excellence, and demonstrate a commitment to pursuing a career in municipal administration. Consideration will be given to applications for both full and part-time study, with preference being given to full-time students.
Category 2 - successful candidates will have clearly demonstrated the need for a bursary, provide evidence that their employer (municipal government body) is prepared to grant the necessary leave of absence and/or funding for a portion of anticipated costs, and demonstrate that they have progressed as municipal government practitioners and have contributed to the profession. Consideration will be given to applications for both full and part-time study, with preference being given to full-time students.
Donor: Communities in the Edmonton region in recognition of the tremendous contribution of Mayor Lede to citizens of the area.
Apply: Apply to the Government of Studies Office, Faculty of Extension on the bursary submission form no later than June 8.

227 Bursary

General Information

The Advisory Services Centre provides emergency student loans and administers a limited number of special bursaries based on financial need. Students are required to fill out a Special Bursary Application Form (available at the Advisory Services Centre, Room 235, Athabasca Hall). The application deadline for the special bursaries is January 15.

The Joseph Stiles Beggs Bursary

Field: Open
Value: $150
Number: 1
Conditions: Awarded annually to an undergraduate student on the basis of financial need.
Apply: By January 15 to the Advisory Services Centre.

The Boehringer Ingelheim (Canada) Ltd. Bursary

Field: Pharmacy
Value: $350
Number: 1
Conditions: To be awarded annually to an undergraduate pharmacy student entering the third or fourth year, on the basis of financial need. Applicants must be Canadian Citizens or Permanent Residents.
Donor: Boehringer Ingelheim (Canada) Ltd.
Apply: By January 15 to Advisory Services Centre.

The Brenda Chernoff Memorial Bursary

Field: Social Work, Rehabilitation Medicine, Nursing, Medicine.
Value: $500
Number: 1
Conditions: To be awarded annually to an undergraduate student from the Slave Lake/Wabasca area who is registered in a program related to the helping of those in need. Selection will be based on financial need.
Donor: Family and friends of the late Brenda Chernoff, a former children's aide worker in Slave Lake, and former social work graduate from the University of Manitoba.
Apply: By January 15 to the Advisory Services Centre.

The Jean B Forest Scholarship

Field: Education
Value: $400
Number: 1
Conditions: To be awarded annually to a mature student entering, or returning to full-time undergraduate studies in the Faculty of Education. The award will be based on academic standing and financial need.
Donor: Endowed by friends of Jean B Forest on her retirement as Chancellor of the University of Alberta.
Apply: By January 15 to the Advisory Services Centre.

AW Fraser and Associates Bursary

Field: Educational Psychology/Psychology Master's Level
Value: $1,000
Number: 1
Conditions: Awarded annually to a first-year Masters student in Educational Psychology or Psychology on the basis of academic standing and financial need.
Donor: AW Fraser and Associates.
Apply: By January 15 to the Advisory Services Centre.

The Tiger and Hazel Goldstick Bursary

Field: Open
Value: Variable
Number: Variable
Conditions: Preference will be given to first year students living within 10 miles of Metropolitan Edmonton. The bursary is based on financial need, satisfactory academic standing, intramural sports activity and community involvement.
Donor: Endowed by the Active 20-30 Club of West Edmonton, and the friends of Tiger Goldstick and his late wife Hazel.
Apply: By January 15 to the Advisory Services Centre.

Interprovincial Pipeline Bursaries

Field: Open
Value: Total $4,000 (minimum $250 each)
Number: Variable
Conditions: Second or subsequent year in pure and applied sciences (eg. chemistry, engineering); technology courses (eg. instrumentation, drafting); business related courses (eg. business, economics, computing science); programs of study leading to a professional degree (eg. medicine, law, dentistry). Applicants must be Citizens or Permanent Residents of Canada or USA.
Apply: By January 15 to Advisory Services Centre.

The Fred Mutzneek Bursary

Field: Open
Value: Up to $650
Number: Variable
Conditions: To be awarded annually on the basis of financial need.
Apply: By January 15 to Advisory Student Services.

Olds Agricultural Society Bursary

Field: Agriculture and Forestry
Value: $1,200
Number: 1
Conditions: Awarded annually to a student in the Faculty of Agriculture and Forestry on the basis of financial need and satisfactory academic standing. Preference to those graduates from high schools in or near the County of Mountain View, Alberta defined as a mailing address from Olds, Didsbury, Carstairs, Crossfield, Bowden, Cremona, Sundre, and Torrington. Participation in extra-curricular activities.
Donor: Olds Agricultural Soceity.
Apply: By January 15 to Advisory Services Centre.

The Thomas Frederick Rieger Memorial Award in Mathematics

Field: Mathematics
Value: Variable up to $1,000 each
Number: 3
Conditions: To be awarded annually to students entering the third or fourth year of the BSc program in Mathematics. Selection will be made primarily on the basis of financial need and academic standing, and is restricted to Canadian Citizens and Permanent Residents of Canada.
Donor: Endowed by Henry and Murial Rieger of Camrose and the family of Thomas Frederick Rieger of Edmonton.
Apply: By January 15 to Advisory Student Services.

The Royal Canadian Legion, Alberta Command Bursary in Physical Education

Field: Open
Value: $500
Number: 2
Conditions: Daughter/son of deceased or disabled war veteran; daughter/son of a war veteran; or ex-service man/woman; or daughter/son of an ex-service or service personnel; or grandson/daughter of veteran. Must be a Canadian Citizen or Permanent Resident living in Alberta or the Northwest Territories.
Donor: Alberta NWL Command, The Royal Canadian Legion BESL.
Apply: By January 15 to Advisory Services Centre.

The Royal Canadian Legion Bursary

Field: Open
Value: $500
Number: 1
Conditions: Daughter/son of deceased or disabled war veteran; daughter/son of a war veteran; or ex-service man/woman; or daughter/son of an ex-service or service personnel; or grandson/daughter of veteran. Must be a Canadian Citizen or Permanent Resident living in Alberta or the Northwest Territories.
Donor: Alberta NWL Command, The Royal Canadian Legion BESL.
Apply: By January 15 to Advisory Services Centre.

Mary Saretta Sparling Memorial Bursary

Field: Open
Value: Up to $200
Number: Variable
Conditions: Awarded annually to female students at the University of Alberta on the basis of financial need. Preference will be given to individuals returning to university or to individuals with dependent children.
Donor: The family and the estate of the late Mary Saretta Sparling.
Apply: By January 15 to Advisory Student Services.

Patrick Spelliscy Memorial Bursary in Arts

Field: Arts
Value: $500
Number: 1
Conditions: To be awarded annually to a student registered in the third year of a degree program in the Faculty of Arts. Selection will be based on financial need.
Donor: Endowed by the Hal Spelliscy family in memory of Patrick Spelliscy who was a student at both the University of Alberta and the University of Laval. His major was English. He was a strong debator and did a considerable amount of acting with the Walterdale group.
Apply: By January 15 to Advisory Student Services.

Terry Spelliscy Memorial Bursary in Business

Field: Business
Value: $500
Number: 1
Conditions: To be awarded annually to a student registered in the third year of a degree program in the Faculty of Business. Selection will be based on financial need.
Donor: Endowed by the Hal Spelliscy family in memory of Terry Spelliscy. Terry was an honors graduate of the Faculty of Business. He had been accepted (in the top ten percent) to study law at the University of Alberta. He was past president of the DU Fraternity.
Apply: By January 15 to Advisory Student Services.

228 Government Financial Assistance to Students

228.1 Province of Alberta Assistance - Matriculants And Undergraduates

228.1.1 Department of Advanced Education

The Province of Alberta provides assistance to students attending university in Alberta.

This assistance is also available for attendance in a course of university level at a college which is affiliated with such a university, or at an approved college or university elsewhere.

Matriculants and undergraduates must be bona fide residents of Alberta. – Province of Alberta Matriculation Scholarships. Scholarships of $150 are provided for students entering university the first time who have a matriculation average of 80% or better.

For details, see Matriculation Awards, §222.1.2.

(1) Province of Alberta Undergraduate Scholarships. Scholarships of $150 are provided for undergraduates with an academic standing in the previous year of 80% (grade-point average 7.5) or better.
For details, see Undergraduate Awards, §222.2.2.
(2) Loans. These are available on the basis of financial need only.
(3) Intersession Loans. Loans on the basis of financial need, are available to undergraduate students enrolled in one or more Intersession courses for credit towards the degree for which they are registered. - Assistance to Part-time Students. Assistance is available to students enrolled part-time in credit courses. Inquiry should be made of the Students Finance Board.

Note: For all of the above, matriculants and undergraduates who are attending an institution in Alberta may obtain information and application forms from their institution. Information may also be obtained from the Students Finance Board. Students attending outside of the Province of Alberta should apply direct to the Board, 10th Floor, Baker Centre, 10025 - 106 Street, Edmonton, Alberta, T6J 1G7. Applicants should note that it may take up to six weeks to process applications for assistance for the winter session.

228.1.2 Alberta Social Services and Community Health

Professional Training Grants

A limited number of professional training grants are available for students entering first and second Year Dental Hygiene. Grants cover tuition fees, travel to the place of study if outside of Alberta and a monthly living allowance. In return for the grants, the recipients must be willing to complete a return service commitment in an approved health or social service setting in Alberta for 12 months per academic year of assistance. Professional training grants are also available for students in Speech Pathology, Audiology, Occupational Therapy, Physiotherapy, Psychology, Health Administration, Psychiatry, and RN specialties on post-basic training. The occupational groups identified may change based on identified manpower needs which are assessed annually. Application forms are available from the Staff Development Branch, Alberta Social Services and Community Health, 6th Floor, Seventh Street Plaza, 10030 - 107 Street, Edmonton, Alberta, T5J 3E4.

228.1.3 Department of Education - Field Services Branch

Vocational Teachers Bursary Program

Value: Maximum of $22,000 ($2,200 for each full course).
Number: Variable.
Conditions: Candidates must have possession of a valid Alberta Journeyman's certificate or the equivalent; must also have proof of several years of appropriate industrial experience as a journeyman. Applicants must have received notice of acceptance into the Faculty of Education at University of Alberta. Suitable candidates will be interviewed and approved by the Selection Committee of the Alberta Department of Education.
Where tenable: University of Alberta.
Donor: Province of Alberta.
Apply: Alberta Education, Curriculum Branch, 3rd Floor, West Tower, Devonian Building, 11160-Jasper Avenue, Edmonton, Alberta T5K 0L2.

228.1.4 Departments of Culture, Recreation, Parks, and Wildlife

Alberta Library Bursary Program

Value: $4000
Number: 1
Conditions: This award is available to students in the final year of a graduate program as well as prospective entrants. The recipient must sign an undertaking to work in a library in Alberta within a year of obtaining a degree in library science and remain employed in an Alberta library for a period of two years thereafter. Preference will be given to candidates interested in working in public libraries. An eligible candidate must be a Canadian Citizen or have Landed Immigrant status; have two years residency in Alberta; completed an undergraduate degree and acceptance at or enrollment in an accredited graduate school of librarianship in Canada. The purpose of the award is to provide Alberta residents with an opportunity to enter the profession of librarianship and to ensure the availability of high calibre, professionally qualified persons for the province's library system. The deadline for applications is May 31.
Donor: Alberta Culture, Library Services.
Apply: Alberta Culture, Library Services, 16214 - 114 Avenue, Edmonton, Alberta T5M 2Z5.

Alberta Library Research Fellowship

To provide an opportunity and encouragement to practising librarians in Alberta for research and study in areas of concern in the public library field or to provide the opportunity to upgrade qualifications through research work, one award, in the amount of $4,000, is made available annually. The award is restricted to Canadian Citizens or Permanent Residents (Landed Immigrants) who have been residents of Alberta for two years and are currently employed by a library in Alberta as a professionally qualified librarian or enrolled in the final year of a post-graduate degree course in Library Science. For application forms, write Alberta Culture, Library Services, 16214 - 114th Avenue, Edmonton, Alberta, T5M 2Z5.

Cultural Development Branch

Study grants at various levels of study are available in Drama, Dance, Music, Visual Arts and Crafts, and Performing Arts. There are various application dates. For further information please write: Alberta Culture, 11th Floor C.N. Tower, T5J 0K5, Edmonton, Alberta, Attention: Arts Study Grants.

4-H

This Branch does not award scholarships from Government funds, but provides information on, and assists in selection of successful applicants for, awards made by others including the Alberta Wheat Board, the Alberta Wheat Pool, the Pennington Memorial Trustee, the Women of Unifarm (Inga Marr Memorial), and the Canadian National Exhibition. The awards are for further study in all fields, with emphasis on agriculture-related areas (including Home Economics). Application forms are available from Regional Representatives and/or the 4-H Branch Alberta Agriculture.

228.2 Province of Alberta Assistance - Graduate Students

The Province of Alberta provides assistance in various forms to students at a university in Alberta or in a graduate faculty of another approved university.

(1) Province of Alberta Graduate Fellowships. A number of fellowships of $9,300 each tenable only in Alberta.
For details, see Graduate Awards, §224.2.
(2) Province of Alberta Graduate Scholarships. A number of scholarships of up to $8,100 each tenable only in Alberta.
For details, see Graduate Awards, §224.2.
(3) Loans are available on the basis of financial need.
Applicants must be registered full time in Graduate Studies.
Application should be made early in the session on the Provincial Government form.
Students who are bona fide residents of Alberta who are attending outside of Alberta should apply to the Students Finance Board, 10th Floor Baker Centre, 10025-106 Street, Edmonton, Alberta, T6J 1G7

The Sir James Lougheed Awards of Distinction

Field: Open
Value: $10,000 or $15,000
Number: Open
Conditions: Named in honor of Sir James Lougheed, noted Albertan, senator and parliamentarian, these awards recognize academic excellence and provide for advanced study anywhere in the world. Awards are valued at $10,000 at the master's level and $15,000 at the doctoral level. Alberta residents only.
Donor: The Alberta Heritage Scholarship Fund.
Apply: By February 1, to the Director, Alberta Heritage Scholarship Fund, Students Finance Board, 10th Floor, Baker Centre, 10025 - 106 Street, Edmonton, Alberta, T5J 1G7

Wilfrid R May Scholarships for Career Development

Field: Open
Value: $10,000. or $15,000
Number: 20
Conditions: Named in honor of the legendary Canadian aviator and bush pilot, these scholarships recognize excellence by professionals, administrators, and managers in their work. Awards are valued at $10,000 at the master's level and $15,000 at the doctoral level. Alberta residents only.
The application deadline is February 1.
For further information and applications contact: Director Alberta Heritage Scholarship Fund Students Finance Board 10th Floor, Baker Centre 10025 - 106 Street, Edmonton, Alberta T5J 1G7 Telephone: 427-8640

Pope John Paul II Commemorative Scholarships

Field: a) native studies or; b) international studies with respect to third world countries, or; c) ecumenical studies
Value: $10,000 at the Master's level, $5,000 at the Undergraduate level
Number: 4 at the Master's level, 2 at the Undergraduate level
Conditions: These scholarships were established in honor of the visit of His Holiness, Pope John Paul II, to Alberta in September of 1984. Applicants must be enrolled full-time at a post-secondary institution in either the undergraduate or master's level.
Donor: Government of Alberta.
Apply: Director of Awards, Student Finance Board, 10th Floor, Baker Centre, 10025 - 106 Street, Edmonton, Alberta, T5J 1G7. Deadline: Master's level - February 1 and Undergraduate - July 1.

The Ralph Steinhauer Awards of Distinction

Field: Open
Value: $10,000 or $15,000
Number: 20
Conditions: These awards honor the man who served as Alberta's Lieutenant-Governor from 1974 to 1979. They provide recognition of exceptional academic achievement and are for study in Alberta. Awards are valued at $10,000 at the master's level and $15,000 at the doctoral level. Open to all Canadians.
Donor: The Alberta Heritage Scholarship Fund.
Apply: By February 1, to the Director, Alberta Heritage Scholarship Fund, Students Finance Board, 10th Floor, Baker Centre, 10025 - 106 Street, Edmonton, Alberta, T5J 1G7

228.3 The Canada Student Loans Plan

The Canada Student Loans Plan was inaugurated in September 1964. Under this plan full-time and part-time students are permitted to borrow, on the basis of financial need.

Applicants must be Canadian Citizens, or have Permanent Resident (Landed Immigrant) status and have lived in Canada for at least a year and state an intention to live in Canada after graduation.

Students whose home residence is, or has been, in another province for the past twelve months should apply through that Province.

In the Province of Alberta the same application form covers both the Provincial Students Finance Act and the Canada Student Loans Plan. Assistance may be given under one or other or both plans on the same application form.

228.4 Federal-Provincial Bilingual Education Program

Funds may be provided for Alberta students pursuing post-secondary studies in the French language. The eligibility criteria for a bilingual fellowship are as follows: the student is a Canadian Citizen or a Permanent Resident (Landed Immigrant); the student is a resident of Alberta; the student has been accepted by a Canadian post-secondary institution providing a milieu conducive to acquiring a better command of his or her second language and is currently enrolled in French language instruction, normally for at least 60% of a full-time program of studies.

The maximum amount of a fellowship is $2,000. which is non-renewable. Preference is given to students registering in Quebec universities, but students of French attending Alberta institutions may be granted smaller awards.

In addition, students who have been awarded the maximum fellowship and who are pursuing their studies in a francophone institution outside the province, may, in subsequent years of their program, qualify for travel bursaries.

The deadline for receipt of applications for the fellowship is September 30th. Applications for the travel bursary may be submitted at any time during the year. Application forms and further information may be obtained from: Students' Finance Board, 10th Floor, Baker Centre, 10025 - 106 Street, Edmonton, Alberta, T6J 1G7.

228.5 Northern Alberta Development Bursaries

The Northern Alberta Development Council Bursary program is intended to offer students who have been long term (3 years) residents of Alberta special bursary assistance where these students demonstrate that they intend to apply their education after graduation in the remote areas of the province. The actual amount of the bursary is dependent upon such factors as the need of the student. Any student who receives a bursary will sign an agreement acknowledging that they will work in a remote area of the province for one year of each year of full bursary support. For further information please contact: The Secretary Northern Alberta Bursary Committee Students Finance Board 10th Floor, Baker Centre 10025 - 106 Street Edmonton, Alberta T6J 1G7.

229 Other Sources of Financial Assistance

The Maude Abbott Memorial Loan Fund

This fund has been established by the Federation of Medical Women of Canada. Loans up to $350 per year are available to women medical students or first year interns. A loan up to $1,000 may be granted to a medical woman for postgraduate training.

Apply to The Maude Abbott Memorial Fund, c/o The Federation of Medical Women of Canada, 1867 Vista Drive, Ottawa, Ontario.

The Alberta Dental Association Student Loan Fund

The Association has established a loan fund for undergraduate students in the Faculty of Dentistry.

Apply to the Office of the Dean of Dentistry.

The American Dental Trade Association

The Association has made available a sum of $700 annually to be issued as loans to students who have entered or are about to enter, the final year in the Faculty of Dentistry and who require financial assistance. Application should be made to the Dean.

The Association of Professional Engineers, Geologists and Geophysicists of Alberta Student Loan Fund

The Association has provided a fund from which loans may be made to students in Engineering, Geology or Geophysics. This fund is designed for emergency loans and generally students should have exhausted the other normal sources first.

Apply to the Dean of Engineering or the Chair of the Department of Geology or of Physics.

Bulkley Valley Cattlemen's Association Bursary

Valued at $500, this bursary is available to students entering first or second year postsecondary training in agriculture. Applicants must be from the Bulkley Valley area in British Columbia. Application forms available from the Registrar or Bulkley Valley Cattlemen's Association, Box 415, Smithers, BC, V0J 2N0.

The Samuel Gadeski Loan Fund

Loans and fellowship grants are open to residents of Alberta for the purpose of obtaining post-graduate education. For further information contact: The Executive Director of the Provincial Hospitals Board, 11560 University Avenue, Edmonton, Alberta, Canada, T6G 1Z2.

Kellogg Foundation Fund Loans

Through the generosity of the Kellogg Foundation of Battle Creek, Michigan, a sum of money has been made available to serve as a revolving fund to provide a limited number of loans to needy students in Medicine or Dentistry. For particulars in regard to these, apply to the Dean of Medicine or Dentistry.

The George E McDougall Loan Fund

The fund was established to assist needy students in Engineering. Inquiries should be made to the Director of Student Awards.

Medical Class of '41 Loan Fund

A fund has been established by the Medical class of '41 from which small loans may be made at the discretion of the Dean of Medicine. Inquiries should be made at the office of the Dean of Medicine.

Proctor and Gamble Forestry Student Bursary Fund

This fund was established by forestry staff of Proctor and Gamble Cellulose Ltd. It is designed to provide emergency assistance to forestry students and support to forestry student activities at the discretion of the Department of Forest Science.

The Joseph Stiles Beggs Bursary Fund

This small bursary fund was established to help needy students by Mr and Mrs Joseph Stiles Beggs of California.

The Albert Strickler Memorial Loan Fund

This fund, which is administered from Philadelphia, provides for loans up to $600 for students in the Faculty of Medicine. While this is not restricted to American citizens, it may be of particular interest to any such who are studying at this University. Apply to the Office of the Dean of Medicine.

Terwillegar Memorial Fund

This fund was established by Dr Norman L. Terwillegar in memory of his only sons, Norman Allin, who was killed while serving with the British Navy, and William Robert, who served in the Royal Canadian Air Force and who died while attending Queen's University; both were former students of the University of Alberta.

The proceeds of the fund will be available to suitably qualified students in Medicine or Engineering in the form of loans, free of interest to the date of graduation. Application forms and further information may be obtained from the Deans of Medicine and Engineering.

WR Zeidler Memorial Loan Fund

This fund which is administered by the Department of Forestry, was established by the Zeidler Forest Industries Limited in memory of its founder, Mr WR Zeidler. Small interest free loans to Forestry students may be made from this fund.

230 Canadian Armed Forces Subsidization Plans

230.1 General Information

The high professional ability required of present day military officers demands the best in education and training. The Department of National Defence therefore sponsors programs of university education and leadership training for selected young men and women who have the potential to become officers in the Canadian Armed Forces. The admission standards are high, but for those who qualify the way is open to a challenging and rewarding career.

The programs sponsored are the Regular Officer Training Plan, (ROTP), Medical Officer Training Plan, (MOTP), Dental Officer Training Plan (DOTP) and Reserve Entry Training Plan (RETP). Training given under these plans is divided into two parts: normal attendance at university throughout the academic year and military training each summer.

230.2 Regular Officer Training Plan

This plan combines university subsidization with career training as an officer in the Regular Component of the Canadian Forces. Successful applicants are enrolled in the rank of Officer Cadet. They are required to maintain a good standing both academically and militarily while in the plan. All tuition and other essential fees are paid by the Department of National Defence. In addition the Officer Cadet receives an annual grant to purchase books and instruments, and is paid for personal and living expenses. This increases annually. Free medical and dental care is provided. Annual leave (20 working days) with full pay and allowances may be granted each year, usually after the summer training period. Subsidization may be available in Engineering, Applied Science, Arts, Physiotherapy, Pharmacy and BSc in Nursing.

230.3 Medical Officer Training Plan

The Medical Officer Training Plan provides, at public expense, academic and internship training of not more than three years and nine months of the final medical studies, including compulsory internship, for undergraduates of Canadian medical schools who enrol in the Canadian Forces for service as Medical Officers. It consists of paid tuition, an annual book and instrument grant, complete medical and dental coverage, paid holidays and monthly pay of 2nd Lieutenant. Three years military service in the Canadian Armed Forces starting with the rank of Captain, is required upon obtaining your licence to practice medicine.

230.4 Dental Officer Training Plan

Sponsorship is provided under the Dental Officer Training Plan during the first, second, third, and fourth year of dentistry. Subsidization consists of paid tuition, an annual book and instrument grant, complete medical and dental coverage, paid holiday and monthly pay for personal and living expenses. Four years military service in the Canadian Armed Forces starting with the rank of Captain is required upon receiving your licence to practise dentistry. Three years obligatory military service applies for successful candidates who are sponsored for three years or less.

230.5 Reserve Entry Training Plan

This plan provides an opportunity for selected undergraduates to prepare themselves for promotion to commissioned rank in the Reserve Component of the Canadian Forces. They are selected during the later months of the University year by the local Reserve Unit and are enrolled as Officer Cadets in the Primary Reserve. Cadets receive pay for training completed at local Reserve Units during the academic year (up to 15 days) and at training bases during the summer (up to 16 weeks).

230.6 Admission Requirements

An applicant must:

(1) be a Canadian Citizen;
(2) be physically fit for enrolment in the forces; and
(3) if ROTP, be between the ages of 16 and 21 on the first of January of the year of commencement of first year studies at University; if MOTP and DOTP, be between the ages of 17 and 35; RETP from 17 to 23.

Note: The above plans are subject to change without notice. The monthly pay associated with each plan normally increases annually.

230.7 How to Apply

Students interested in ROTP, MOTP or DOTP are requested to contact the following:

Commanding Officer
Canadian Forces Recruiting Centre
10414 - 103 Street
Edmonton, Alberta T5J 0J1

Students interested in RETP are requested to contact the following:

Commander
Northern Alberta Militia District
Building H-9
CFB Edmonton (Griesbach)
143 Ave and 108 Street
Edmonton, Alberta T0A 2H0
or
The Commanding Officer
HMCS Nonsuch
11440-117 Street
Edmonton, Alberta T5G 2W5.

General Information

241 University History and Traditions

241.1 Historical Sketch

241.1.1 Introductory

The University of Alberta is a publicly supported, non-demoninational, co-educational institution. It is a member of the Association of Commonwealth Universities and of the Association of Universities and Colleges of Canada.

The University's main campus of 89 hectares borders the wooded southern bank of the North Saskatchewan River and lies about two miles from Edmonton's business centre. Away from the main campus, the University Farm occupies approximately 148 hectares; other holdings include the botanical gardens near Devon and lands as far distant as Fort Assiniboine. A considerable area is held under rental agreements, including the Ellerslie farm and the Kinsella ranch.

Some two dozen major teaching and research buildings are situated on the campus as well as two affiliated colleges, six halls of residence, the Students' Union, and service buildings. Michener Park, once part of the University Farm, is a student housing area. South of 87th Avenue, on lands formerly part of the original campus, are the quarters of the Research Council of Alberta, the Provincial Laboratory of Public Health, two teaching hospitals, the Edmonton Veterans' Hospital, the Aberhart Sanatorium, the Dr. W W Cross Cancer Institute, and the Northern Alberta Jubilee Auditorium.

241.1.2 The Beginnings of the University

Alberta became a province in 1905. In 1906 the first session of legislature passed an act to authorize the establishment of the University of Alberta. The act's sponsor was Alexander Cameron Rutherford, Alberta's first Premier and first Minister of Education. His government purchased the site in what was then Strathcona, and Dr. Rutherford himself persuaded Henry Marshall Tory to leave McGill to become the University's first President, an office he held from 1908 to 1928.

The act permitted all resident graduates of British and Canadian universities to register as members of Convocation. Convocation elected five members to a Senate; the government appointed ten more. The Senate, acting as the governing body of the University, established the Faculty of Arts and Science as the core of the new institution. In 1910 a revision of the University Act constituted the Board of Governors, with powers of business management and administration.

Classes opened in September, 1908, in what is now Queen Alexandra School with forty-five students and a faculty of five: WH Alexander, Classics; EK Broadus, English; WM Edwards, Mathematics; LH Alexander, Modern Languages; and Dr. Tory himself. Thence they moved to the upper floor of Strathcona Collegiate Institute and then in 1911 to Athabasca Hall. Athabasca not only served as residence for staff and students, but also accommodated classrooms, laboratories, the library, the gymnasium, and the administrative offices. The members of the first graduating class received their degrees at the Convocation of 1912, with Mr. Justice CA Stuart presiding as Chancellor.

A period of rapid growth followed, with registration reaching 439 in 1914. Assiniboia Hall was completed in 1913, Pembina Hall in 1914, and the Arts Building was formally opened in 1915. The Faculty of Law had its beginning in 1912. In the same year the Department of Extension initiated its work of promoting a closer relationship between the University and the people of the province. In 1913 the Faculty of Applied Science (renamed Engineering in 1948) and the Faculty of Medicine were instituted, the latter able to offer three years of a five-year program.

The Students' Union was established during the first session and the first edition of The Gateway, the students' newspaper, appeared in 1911. The Committee on Student Affairs began in 1912 as a joint committee of students and University officials to exercise general supervision over matters affecting student welfare and discipline. Today the Council on Student Affairs carries on its work.

241.1.3 Years of Challenge: 1914 to 1945

The outbreak of war in 1914 slowed the pace of development. The new University sent 438 of its staff, alumni, and students to the armed forces. Eighty-two were killed or died on active service. Their names, together with those of the casualties of the war of 1939-45, are commemorated on a bronze tablet near the entrance to Convocation Hall.

Although the war brought a halt to the building activity, the organization of the University's teaching moved on with the establishment of the Faculty of Agriculture in 1915, the School of Accounting (later the Faculty of Commerce, and now the Faculty of Business) in 1916, the School of Pharmacy and the sub-faculty of Dentistry in 1917, and the Department of Household Economics in 1918 (all of which have since become faculties).

With the end of the Great War the University rapidly expanded in number of students and staff. New laboratories were built adjacent to the Arts Building, and the Medical Building was completed in 1921 in the form it had until new wings were added following the war of 1939-45. The curriculum was fundamentally revised in 1919-1920 to permit greater freedom in election of courses. The first summer session was held in 1919. The institution of the Research Council of Alberta signified not only an increasing emphasis on science, but a further recognition of the University's involvement in the development of the province.

In 1927 St. Joseph's College was opened under Roman Catholic auspices. St. Stephen's College had been, as Alberta College South, the first building on the campus. After the union of the Methodist and Presbyterian churches, it was renamed in 1927 and became the United Church theological college for Alberta.

The depression years brought serious problems. Though registration did not decline, its increase was painfully slow, from 1,560 students in 1929 to 2,327 in 1939. Full-time teaching staff increased even more slowly. The budget actually fell and did not recover to its pre-depression level until after the war. No new building took place after the present Corbett Hall was completed. (Corbett Hall was originally constructed as a provincial normal school, not a University building.) RC Wallace succeeded President Tory in 1928, and in 1936 was followed by WAR Kerr, who had been the first Dean of the Faculty of Arts and Science. The affiliation of Mount Royal College in 1931 marked a new beginning of university work in Calgary. The Banff School of Fine Arts opened in 1933 and the Western Board of Music was established in 1931. Entrance to the University from Grade XI was abolished in 1937. In 1930 fraternities were permitted; a less controversial change was the abolition of the old practices involved in freshman initiation.

The impact of the war of 1939 was very different from that of 1914-18. Though war naturally disrupted the University's life, there was a determination to preserve its essential being while using its facilities as fully as possible in relation to the national effort. The Air Force took over the three residences and out-of-town students, whose number had not substantially declined, flocked into Garneau boarding houses and made use of a new cafeteria known to later generations as Hot Caf (which was demolished in 1969 to provide the site for the Central Academic Building). Medicine, Dentistry, and Education offered accelerated courses. Engineering offered special courses to members of the armed services. No more important development took place than the acceptance in 1945 by the University of sole responsibility for the training of Alberta teachers. The School of Education, established in 1928, became a faculty in 1942, and after the war it became, in terms of enrollment, the largest in the University.

Robert Newton was named President on WAR Kerr's retirement in 1941. He played an important part in the framing of the University Act of 1942, which transferred from the Senate to the General Faculty Council jurisdiction over academic matters and vested all final authority in the Board of Governors, whose jurisdiction had previously been confined to finance.

241.1.4 Years of Expansion: 1945 to 1969

With the end of the war, a flood of veterans poured into the University and registration rose from 2,023 in 1943-44 to a peak of nearly 5,000 in 1947-48. Accommodation in classrooms, laboratories, and libraries was pathetically inadequate, and housing was generally even less satisfactory. Army huts only partially relieved the pressure. While by 1947 student numbers had tripled from pre-war figures, the full-time teaching staff did not even double. Thereafter the pace of campus development slowly increased. New wings were added to the Medical Building in 1947 and 1948; the first Students' Union Building opened in 1950, the Rutherford Library and the Engineering Building in 1951, and the Agriculture Building in 1953 (now, after enlargements and renovations, the Earth Sciences Building). The Administration Building dates from 1957.

The hectic post-war years merged into the slower growth of the 1950s. Andrew Stewart became president in 1950 and was succeeded by Walter H. Johns, who served from 1959 to 1969. In that ten-year period the enrollment rose from approximately 5,000 to 17,500, as the post-war generation came to university age.

This unprecedented increase in numbers made necessary the rapid construction of new buildings during the 1960s. The Physical Education Building, the Physical Sciences Building, and additions to the Medical and Engineering Buildings were followed by the Education Building in 1963, the Donald Ewing Cameron Library, the Household Economics Building, and the new residences named after western explorers. The dining centre was named in honor of Reg Lister, who had for so many years taken care of the older residences. The Henry Marshall Tory Building was opened in 1966, Phase I of the Engineering Centre in 1968, and the Clinical Sciences Building of the Faculty of Medicine in 1969. A new Students' Union Building opened in 1967.

No major changes in the University's legal status occurred until the Act of 1966 provided for the establishment of other and separate provincial universities under a Universities' Commission, which has since disbanded.

The increasing range and complexity of subjects studied at the University was reflected in the classification of Graduate Studies as a faculty in 1957, in the division of the Faculty of Arts and Science into two faculties in 1963, and in the foundation of a number of new centres and institutes dedicated specifically to research. Outside of Edmonton, the University's work in Calgary, instituted in 1951, gradually expanded and an affiliated junior college was established in Lethbridge. These became separate universities in 1966. Other junior colleges in Medicine Hat, Camrose, Red Deer, and Grande Prairie became affiliated with the University to help bring higher education to more areas of the province.

241.1.5 Recent Years

Max Wyman, the first graduate of the University to become its president, took office in 1969 and served until 1974; Harry Gunning followed from 1974 to 1979, and Myer Horowitz from 1979 to 1989, when Paul Davenport was installed as the tenth president. During these years new problems arose, as a levelling-off of student numbers and world-wide inflation made the University's projected budgets less adequate than had been expected.

In the 1980s a gradual increase of student numbers resumed, reaching almost 25,000 full-time and more than 4,000 part-time students in 1986-87. Buildings already begun were completed one by one: the Biological Sciences Centre and the Central Academic Building in 1970, the Law Centre in 1971, and the Basic Medical Sciences Complex and the Engineering Centre, Phase II, in 1972. In 1972, also, the first residents moved into the Housing Union Building, designed and financed on the initiative of the Students' Union. Since then, the Humanities Centre, the Fine Arts Building, one phase of a projected expansion of the Rutherford Library, and additions to the Chemistry Building and Education Building have successively come into use. In 1978, following several years of moratorium on construction, ground was broken for a new Agriculture and Forestry Building; it was completed and opened in October, 1981. Part of the Walter C Mackenzie Health Sciences Centre was opened in 1982, and a new building for the Faculty of Business was completed in 1984.

A growing awareness of the value, both architectural and practical, of the University's older buildings led to a decision to renovate, rather than demolish, Pembina Hall. Pembina's transformation into a fully modern graduate student residence was so successful that it earned national recognition in the form of a Heritage Canada Award. Athabasca Hall underwent an even more drastic transformation, as its wooden construction needed to be completely replaced with modern materials; the renovated building was reopened in the autumn of 1977 and received a Heritage Canada Award in its turn. A similar rebuilding of Assiniboia Hall was completed in 1982. Convocation Hall was also renovated, and a new organ installed; several recitals on this instrument have been nationally broadcast since it was inaugurated in 1978. Renovation of the Arts Building was completed in the spring of 1988.

In 1970 the Collége Saint-Jean, in South Edmonton, became an integral part of the University as the Collége Universitaire Saint-Jean and in May of 1978 it became the University's newest faculty when the name officially changed to Faculté Saint-Jean. It offers a bilingual program of courses in Arts, Science, and Education.

Spring Session (a six-week period between the end of the regular Winter Session and the beginning of Summer Session), during which intensive courses are offered, was inaugurated in 1972 and proved to be an immediate success.

The importance of scholarly publishing in the academic community was recognized when the Board of Governors formally established the University of Alberta Press. Although at first without regular staff, the Press nevertheless succeeded in publishing a small group of works of high quality. The appointment of LES Gutteridge as the first Director of the Press in 1977 placed its operations on a more adequate basis; since then it has issued a number of works of scholarly value each year. The publication in July, 1981, of *A History of the University of Alberta*, by former president Walter H Johns, was a sign of the maturity both of the University and of the Press.

In 1983 the University celebrated the seventy-fifth anniversary of its foundation in a way that illustrated its significance in Canada and the international community. HRH the Prince of Wales received an honorary doctorate at a special convocation, and opened the World University Games, which attracted more than 6,000 participants from 87 countries to a wide variety of athletic and cultural events. The Universiade Pavilion, the Tennis Centre, and new student housing in Garneau, all completed in time to be used during the games, remain as reminders of the occasion.

241.2 University Traditions

241.2.1 The University Motto

The University motto, Quaecumque vera, is taken from the Latin Vulgate version of the Bible, the Epistle of St. Paul to the Philippians, chapter 4, verse 8: De cetero, fratres, quaecumque sunt vera, quaecumque pudica, quaecumque justa, quaecumque sancta, quaecumque amabilia, quaecumque bonae famae, si qua virtus, si qua laus disciplinae, haec cogitate.

The same passage, from the King James version, is: Finally, brethren, whatsoever things are true,whatso-ever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report; if there be any virtue, and if there be any praise, think on these things.

241.2.2 The Coat of Arms

On November 15, 1909, a Faculty meeting passed a motion recommending to the Senate the adoption by the University of the Provincial coat-of-arms as its crest with the addition of an open book superimposed upon the cross and bearing the motto "Lux et Lex", and also the words "University of Alberta" attached as may seem fit. The present motto was substituted for that originally proposed in January 1911.

In 1950, the form of the shield and other details were altered to conform more strictly to heraldic principles, and the following official description of the Arms was adopted:

Blazon: Azure in front of a range of Snow Mountains proper, a range of Hills Vert, in base of a Wheat Field surmounted by a Prairie, both also proper, on a chief Argent a St. George's Cross.

Crest: In front of Sun Rays or an Open Book proper.

Motto: Quaecumque vera.

The Arms are copyrighted and may not be used without permission of the Board of Governors. The name of the University is similarly protected.

241.2.3 The University Colors

The original suggestion for the University colors came from the late Mrs. WH Alexander, who drew her inspiration from the autumn colours of the river valley below the campus. Professor Alexander relayed the suggestion to the Faculty meeting of October 5, 1908, which passed it on to the Senate for approval.

At its first meeting of October 13, 1908, the Senate accepted the "beautiful and at the same time infrequent" combination of green and gold as particularly appropriate to the new University of Alberta - the green representing the "wide stretches of prairie land flanked by deep spruce forests", and symbolic of "hope" and "optimism", the gold representing the "golden harvest fields", and symbolic of the "light of knowledge".

241.2.4 Academic Costume

All gowns are to be of the customary Cambridge shape, i.e., for undergraduates, a gown of black material not falling below the knee with round sleeves cut above the elbow; for bachelors, a gown of black material falling below the knee with full sleeves cut to the elbow and terminating in a point; for masters, doctors of medicine and doctors of dental surgery a gown of black material falling below the knee with black sleeves with semi-circular cut at bottom.

Hoods are to be of the Oxford pattern, and of spruce green material.

The bachelor's hood is to have a border (2 1/2 inches wide), the master's a full lining, of the color distinctive of the faculty. The MD and DDS hoods are to be of the master's pattern.

The Faculty colors are:

Agriculture and Forestry	Pale Blue
Arts	White
Business	Silver Grey
Dentistry	Maroon
Education	Royal Blue
Engineering	Light Green
Home Economics	Burgundy with Pink trim
Law	Scarlet
Library and Information Studies	Lemon
Medicine	Crimson
Nursing	Crimson with White trim
Pharmacy & Pharmaceutical Sciences	Cinnamon
Physical Education & Recreation	Royal Blue and Gold
Rehabilitation Medicine	Salmon Pink
Faculté Saint-Jean	Lavender
Science	Gold-yellow

Doctor's gowns (PhD, DMus and EdD) are to conform to the Intercollegiate Code in design. They are to be of black material and the velvet trim is to be Philosophy blue for the PhD, and Education light blue for the EdD. Doctors of Laws, Science and Letters are entitled to wear a full-dress scarlet robe faced with white silk.

Doctor's hoods (PhD, DMus and EdD) are to conform to the Intercollegiate Code in shape, size and color. They are to be of black material to match the gown, and the full lining is to be of gold satin with a six-inch green satin chevron. The velvet trim distinguishes the two degrees and matches the velvet trim on the gown. There is to be a narrow green piping where the gold lining joins the black material. Honorary degree hoods (LLD, DLitt and DSc) are of scarlet silk and of the Cambridge form and have a full lining of white silk.

All caps are to be of the ordinary black trencher shape with black tassels, except for a black velvet cap with gold cord for LLD, DLitt, and DSc full dress.

242 Constitution of the University

242.1 Introductory

The main lines of the constitution of the University of Alberta are laid down in the Universities Act assented to April 15, 1966.

Note: §242.2 - Reserved

242.3 The Universities Coordinating Council

242.3.1 General Information

The Universities' Coordinating Council consists of the following representatives of each university in Alberta: the President, the Vice-President (Academic), two Deans and two other members of the academic staff appointed by the General Faculties Council, and not more than three other members of the academic staff appointed by the Coordinating Council itself. The Chair is elected by the Council, but shall not be elected from the representatives of one university for more than three consecutive years. The Council may appoint a secretary and prescribe his or her powers, functions and duties.

The Council inquires into any matter that in its opinion calls for cooperative action on the part of the General Faculties Councils, and makes recommendations thereon to any General Faculties Council or the Minister of Advanced Education; it may give its advice and opinions to the General Faculties Council or to the Minister on any matter. It may make recommendations to the Board of Governors of a University or to the Minister. It may determine minimum standards for the affiliation of colleges or other institutions with the Universities, and may recommend that an affiliation agreement be made, modified, or dissolved. It gives or withholds its approval of standards or policies proposed by a General Faculties Council with regard to the admission of first-year students to any University. It has jurisdiction over the conditions of entrance to certain learned professions and callings.

Note: §242.4 - Reserved

242.5 The Chancellor

Chancellor of the University
SA Mactaggart, BA, MBA, LLD (Hon)

The Chancellor is titular head of the University, and represents the public interest in the University. Elected for a four-year term of office by the Senate, the Chancellor is chair of the Senate, an ex officio member of the Board of Governors, confers all degrees and represents the University at ceremonial occasions.

242.6 The President and Vice-Chancellor

President and Vice-Chancellor
P Davenport, BA, MA, PhD

The President, who is also the Vice-Chancellor, is ex officio a member of the Universities Coordinating Council, the Board of Governors, the Senate, and all faculty councils. The President chairs meetings of General Faculties Council and Deans' Council. He is entrusted with the general supervision of the academic work and the business affairs of the University and may recommend to the Board of Governors on any matter affecting the University.

242.7 The Vice-Presidents

Vice-President (Academic)
JP Meekison, PhD

The Vice-President (Academic) is the senior vice-president. In the absence or incapacity of the President, or when the presidency is vacant, he is the Acting President.

Vice-President (Finance and Administration)
G Harris, MASc

Vice-President (Research)
CR James, PhD

Vice-President (Student and Academic Services)
LM Stanford, PhD

Vice-President (Development and Community Affairs)
RG Glassford, PhD (Acting)

242.8 The Board of Governors

242.8.1 Members

Chair
SA Milner, BSc

Statutory Members
SA Mactaggart, BA, MBA, LLD (Hon), Chancellor of the University
P Davenport, PhD, President of the University

Alumni Representatives
RS MacDonald, BA, BSc, LLB
B Kozoriz, BSc

Senate Representative to the Board
W Yurko, BSc

Academic Staff Representatives
JE Bertie, PhD
BJ Busch, AB, AMLS, MA

Non-Academic Representative
R Torgerson, PhD

Student Representatives
S Downes, BA, MA
S Mustapha
K Powys-Lybbe

Public Representatives
WD Grace, BA, FCA
AP Hiebert, BSc, BEd, MEd
M Lobay, BA Ed(Dip), BA(Ed), MEd
PW Milnthorp, BA(Ed), MEd
HJS Pearson
T Shields, BEd, MEd
J Superstein
M Welsh, BA, LLB

242.8.2 Administrative Director

PA Robison, CD, BA, UE

The Board of Governors is a corporation with the name "The Governors of The University of Alberta". It consists of a Chair appointed by the Lieutenant-Governor in Council, the Chancellor, the President, and 17 other persons appointed by the Lieutenant-Governor in Council. Of the 17, two are members of the Alumni Association nominated by the Association, one is a member of the Senate nominated by it from those of its members who are not on the University Staff, two are members of the academic staff nominated by the General Faculties Council, one is a member of the non-academic staff nominated by the non-academic staff, one is a student nominated by the Graduate Students' Association, two are students nominated by the Students' Council, and eight are appointed as representatives of the "general public."

The conduct, management, and control of the University and all its property, revenue, business, and affairs are vested in the Board. The Board appoints the deans of all faculties, all members of the teaching staff, the Librarian, the Registrar, and all members of the administrative staff, but no one may be appointed to a senior administrative post or to the academic staff of the University unless first nominated by the President of the University. The Board provides for the maintenance of buildings and the erection of new buildings. It has authority to purchase and acquire such property as it may deem necessary for the purposes of the University. It fixes the various fees charged in connection with university courses and it makes financial provision for the establishment of new faculties, departments, and courses. It may establish arrangements designed to contribute to the educational and cultural advancement of the people of Alberta at large. When any question arises as to the powers or duties of the Senate or any other University body or of the President or a dean or other officer or employee, and these powers and duties are not definitely provided for in The Universities Act, the Board's decision on the question is final.

242.9 The Senate

242.9.1 Ex-officio Members

Chancellor of the University
SA Mactaggart

President of the University
P Davenport

Vice-President (Academic)
JP Meekison

Dean of Student Services
PJ Miller

Dean, Faculty of Extension
W Lamble

President of the Alumni Association
M Shortt

Vice-President of the Alumni Association
M Neufeld

242.9.2 Appointed Members

Appointed by Deans' Council
P Clements
WJ McDonald

Appointed by the Board of Governors
M Lobay
MC Welsh

Appointed by General Faculties Council
M Cox-Bishop
D Fishwick
S Neuman

Appointed by the Alumni Association
G Fryett
D Stanley

Appointed by the Minister of Advanced Education
S Edwards
WJM Henning
R Louis
P Shirt
C Vos
L Williams

Appointed by Students' Council
S Danial
S Graham
S Kennedy
D Tupper

Appointed by the Graduate Students' Association
K Ross

Non-Academic Staff appointed by the Minister of Advanced Education
C Dechaine
B O'Neill

242.9.3 Elected Members

D Allan
B Armstrong
K Balkwill
CM Blair
E Bryant
PM Caffaro
G Cheeseman
D Daniels
D Davidson
AW Denson
P Ellis
P Greschuk
RC Hill
S Kalia
B Keeler
A LaGrange
D Lee
C McDonald
A McKenzie
L Miller
W Newbigging
BA Olsen
M O'Neill
M Pemberton
MG Purcell
W Ross
K Shoctor
B Steblecki
J Wahl
WJ Yurko

242.9.4 Executive Officer

RM Totman, BA

The Chancellor of the University is Chair of the Senate, which has 62 members, 30 of whom are elected from the general public, and nine appointed from the public by the Minister of Advanced Education.

It is the mandate of the Senate to inquire into any matter that might tend to enhance the usefulness of the University. It is specifically authorized to interpret the University to the public, to require reports from faculty councils, the Students' Council, and any members of the academic staff; to receive and consider submissions from anyone interested in the University; to arrange for public meetings, radio and television programs and other means of providing and acquiring information on the University; as a consequence, to make reports and recommendations to the Board or the General Faculties Council or other appropriate body. In addition, the Senate may authorize the conferring of Honorary Degrees.

The Senate brings together the University and the public. Although it has little formal decision-making power, it seeks to stimulate discussion on issues of concern and to aid in their resolution. It is a two-way link between the communities.

242.10 General Faculties Council

242.10.1 Ex officio Members

The President
The Vice-Presidents
The Deans of the Faculties
The Director of the School of Native Studies
The Librarian
The Registrar

242.10.2 Elected Members

54 members elected by and from the faculty.

242.10.3 Statutory Student Members

2 Undergraduate students
1 Graduate student

242.10.4 Appointed Members

3 Members of the non-academic staff
3 Librarians
2 Representatives of the academic staff on the Board of Governors and 1 student representative on the Board of Governors
2 Administrative and Professional Officers/Faculty Service Officers
The President of the AASUA
The Director of Special Sessions
The Principal of St. Joseph's College
Dean of Student Services
Appointed Graduate Student Members
Appointed Undergraduate Student Members

242.10.5 Secretary

EA Schoeck, BA, MA

General Faculties Council (GFC) consists of the President, the Vice-Presidents, the Deans, the Librarian, the Registrar, elected members representing the Faculties and appointed members, including students. The number of elected staff members is twice that of the ex officio members and the number of appointed student members equals the number of elected staff members. General Faculties Council, subject to the authority of the Board of Governors, is the senior academic body of the University. It provides for the granting and conferring of degrees, for the approval of courses and programs of study, and for the hearing of appeals by students and others from decisions of Faculty Councils. GFC makes rules and regulations for the management and conduct of the Library and determines standards and policies respecting admission of students. It may make recommendations to the Board on affiliation of other institutions, on academic planning, campus planning, the budget, procedures regarding the appointment, promotion and dismissal of academic staff, and any other matter which it considers to be of interest to the University. It has the general supervision of student affairs.

242.11 Deans' Council

EA Schoeck, Secretary

Deans' Council is an advisory body to the President, the Board of Governors, and to General Faculties Council. It consists of the President, the Vice-Presidents, the Dean of each Faculty, the Director of the School of Native Studies, the Registrar and Chief Librarian.

242.12 Faculty Councils

Each Faculty, except that of Graduate Studies and Research, has a council consisting of the President, the dean of the Faculty, all full-time members of the academic staff of the Faculty, a representative of each of the appropriate professional societies associated with the faculty appointed by General Faculties Council on the recommendation of the Faculty Council, and other persons appointed by General Faculties Council on the recommendation of the Faculty Council. The Council of the Faculty of Graduate Studies and Research consists of the President, the Dean, and other persons appointed by General Faculties Council.

Each Faculty Council, subject to the control of General Faculties Council, arranges the courses of study falling within its jurisdiction and provides for the setting of examinations and for determining the results. It deals with admissions and withdrawals, and authorizes the granting of degrees in branches of learning within its jurisdiction.

242.13 Other Administrative Offices

242.13.1 Office of the Vice-President (Academic)

JP Meekison, PhD, Vice-President (Academic)
BL Evans, PhD, Associate Vice-President (Academic and International Affairs)
DK Kieren, PhD, Associate Vice-President (Academic)
BH McDonald, MBA, Associate Vice-President (Academic Administration)
EM Cherniavsky, BA, Administrative Officer (Academic Administration)
K Moodie, BSc, Executive Assistant to the Vice-President (Academic)
LA White, Academic Personnel Officer (Academic Administration)

242.13.2 Office of the Vice-President (Finance and Administration)

G Harris, BSc, MASc, Vice-President (Finance and Administration)
LF Jamernik, BBM, CMA, Associate Vice-President and Comptroller
DG Bellow, PEng, FCSME, BASc, MSc, PhD, Associate Vice-President (Facilities)
PA Watts, Associate Vice-President (Finance)
PS Taitt, PhD, Executive Assistant to the Vice-President (Administration)

242.13.3 Office of the Vice-President (Research)

CR James, PhD, Vice-President (Research)
RL Busch, PhD, Associate Vice-President (Research)
HB Dunford, PhD, Research Coordinator for the Office of the Vice-President (Research)
M Matthen, PhD, Research Coordinator for the Office of the Vice-President (Research)
J Morse, PhD, Research Coordinator for the Office of the Vice-President (Research)
B Bohdan, APO for Office of the Vice-President (Research)

242.13.4 Vice-President (Student and Academic Services)

LM Stanford, PhD, Vice-President (Student and Academic Services)
BJ Silzer, MEd, Associate Vice-President and Registrar
J Andrews, MSc, Director of Museums and Collection Services
D Bruch, BA, Director of Housing and Food Services
N Gutteridge, Director of University Press
E Ingles, MLS, Chief Librarian and Director of Libraries
D Langevin, Director of Campus Security Services
PJ Miller, PhD, Dean of Student Services
KC Porteous, PhD Director of University Computing Systems
FW Trehearne, BEd, Director of Office of Human Rights
LC Young, Director of Printing Services

242.13.5 Vice-President (Development and Community Affairs)

RG Glassford, PhD, Acting Vice-President (Development and Community Affairs)
P Warmington, Acting Director of Development Office
S Peirce, BA, Director of Alumni Affairs
M Clarke, MA, Director of Public Affairs

242.13.6 University Computing Systems

KC Porteous, PEng, Director
WE Affolder, Associate Director, Administrative Applications
RG Crawford, BSc, MBA, Associate Director, Academic Applications and Support
RI Simpson, Associate Director, Networking and Computing Centre Operations
JR Beristain, Manager, Operations
BW English, Manager, Production Support
OV Kolar, MSc, Security Administrator
B Latham, Acting Manager, Technical Support
RM Simpson, Manager, Systems Development
KJ Switzer, Manager, Network and Data Communications
YN Zia, MSc, Manager, Academic Applications

242.13.7 Alumni Association

S Peirce, BA, Director See 245

242.13.8 Budget and Statistics

WD Cairns, MSc, Director
GA Fester, BCom, Senior Statistical Analyst
DM Quigg, MA, Budget Planning Analyst
C Vasquez, BSc, Budget Coordinator

242.13.9 Campus Security Services

DMJ Langevin, Director
CM Goode, Associate Director
RJ Oliver, Manager – Operations

242.13.10 Office of the Comptroller

LF Jamernik, BBM, CMA, Associate Vice-President and Comptroller
FJ Chesney, BCom, CA, Treasurer and Risk Manager
P Banks, BA, CMA, CSP, Manager, Financial Information Systems
D Jorgensen, BComm, CMA, Manager, Special Funds and Research Accounting
CS Johnson, CMA, Accountant – General Accounting Section
L Howell, CA, - Chief Accountant
ED Grover, BSBA, MBA, CMA, Accountant – Budget/Capital Accounting Section
R McGregor, BCom, CA, Payroll Manager
CL McJannet, BCom, CMA, Staff Accountant
D Cox, Office Manager/Travel Supervisor/Accounts Receivable

242.13.11 Housing and Food Services

D Bruch, BA, Director
D Dawson, BCom, General Manager Food Services
S Perka, Facilities Manager
F Chaudhry, CA, Finance Manager
L Mailo, Personnel Supervisor
W Gittins, PhD, Housing and Residence Life Manager

242.13.12 Office of Human Rights

AS Pellatt, BA, LLB, Human Rights Officer
FW Trehearne, BEd, Human Rights Officer

242.13.13 Intellectual Property and Contracts Office

DC Norwood, BA (Hons), MA, Director
J Barrington-Leigh, PhD, CPhys, Senior Technology Management Officer
WR MacDonald, BSc, PhD, Technology Management Officer
TA Cisakowski, BSc, MBA, Technology Management Officer
T Lam, BSc, MSc, PhD, Technology Liaison Officer
MM Cameron, Administrative Assistant

242.13.14 Internal Audit Department

RF Ritter, BCom, CA, Manager
MC Lai, BCom, CMA, Internal Auditor
AL Pedden, BCom, CMA, Internal Auditor
S Poon, Internal Audit Assistant

242.13.15 Investment and Real Estate Office

RJ Fleming, BA, Director

242.13.16 Materials Management

RA Bennett, BCom, Director of Materials Management
MM Craige, CPP, Purchasing Manager
BE Lofto, CPP, Distribution Manager

242.13.17 Museums and Collections Services

J Andrews, BA, MSc, Director
HF Collinson, BA, BSW, Curator, Collections

242.13.18 Personnel Services

JB Caunt, BCom, MBA, Director
WA Betteridge, BCom, Job Evaluation and Compensation Manager
FJ Dau, BA Employment Officer
LW Davidson, BCom, Employment Services Manager
R Dugas, BA, Training and Development Manager
JE Mason, Employee Relations Officer
BK McNeill, BA, BAdmin, Employee Relations Manager
K Philip, BA, MA, Employee Relations Officer
S Polvere, Employment Officer (Temporary Staff Services)
L Walden, BEd, MEd Information Systems Manager
GL Weir, BSc, MSc, Occupational Health and Safety Officer
B Williams, Employment Officer

242.13.19 Physical Plant

GA Bulat, PEng, BSc Director
S Ostapowich, MEng, Associate Director, Utilities
KR Moodie, PEng, BASc, Associate Director, Building Operations
RA Kudryk, Manager, Operations
L Sereda, PEng, BASc, Systems Engineering Manager, Energy Management
WS McCutcheon, NPD, Manager, Grounds
WS Larsen, CEH, Manager, Building Services
A da Silva, PEng, BASc, Manager, Mechanical Utilities
R Kjenner, Manager, Heating Plant
T Nonay, PEng, BSc, Engineering Officer, Utilities
E Dux, Manager, Vehicle Pool
D Pretzlaff, Superintendent, Building Trades
C Carter, Manager, Electrical Utilities
T Moore, Plant Administrative Officer
RA Jackson, BA, Personnel Administrator
A Mah, BCom, CPM, Manager, Parking Services
R Richards, Fire Protection Officer, Fire Safety
GF Wiens, PEng, BSc, Superintendent, Grounds and Transportation
SL Wastle, Telecommunications Utility Manager

242.13.20 Planning and Development

JA Dykes, BArch, AAA, MRAIC, Director
GT Ballash, BSc, PEng, Senior Project Engineer
EM Dechert, BES, BArch, AAA, MRAIC, Senior Planning Officer
RA Fuller, Senior Manager, Contracts and Records
WA Hansen, BSc, BEd, Space Planning Officer
AW McDowall, BA, CGA, Administrative Manager
AW Palmer, BArch, MRAIC, Senior Development Officer
VR Santos, BScE, PEng, Development Officer
MJ Szyling, BSc, PEng, Development Officer
TN Brockelsby, BES, Planning Officer

242.13.21 Printing Services

LC Young, Director
DA Gosselin, Executive Assistant/Marketing Coordinator

WM Mosier, Manager, Manufacturing
PE Olsen, Manager, Finance and Information Systems
SJ White, Reprographics Division

242.13.22 Public Affairs

M Clarke, Director
S Halme, Media Relations Coordinator
A LeRougetel, Research Writer
D Bachman, Graphic Designer
RL Thomas, Editor, *Folio*
M Robb, Assistant Editor, *Folio*

242.13.23 Office of the Registrar

BJ Silzer, BSc, BEd, MEd, Registrar
HJ King, CD, Associate Registrar (Director of Records)
BG Neuman, BA, MA, Associate Registrar (Director of Admissions)
GW Affolder, BCom, High School Liaison Officer
JM Daniel, BSc, BPE, Assistant Registrar (College Liaison)
S Gibson, BSc, Assistant Registrar (Examinations and Timetabling)
SD Jenkins, BA, Assistant Registrar (Administrative Services)
BJB Purves, BA, MA, Calendar Editor and Assistant Registrar (School Liaison and Orientation)
DVE Sheikh, BA, Assistant Register (Records Production)
SA Sit, BCom, Assistant Registrar (Computer Production)
LM Taylor, BA, Assistant Registrar (Admissions Production)
LM Wong, BA, Assistant Registrar (Computer Development)

242.13.24 Research Grants Office

CF Betke, BA (Hons), MA, PhD, Director

242.13.25 Student Services

Dean of Student Services
PJ Miller, PhD

Senior Administrator, Office of the Dean of Student Services, Career and Placement Services, Disabled Student Services, Effective Writing Resources, International Centre, Native Student Services, Student Counselling Services, Advisory Services Centre, and University Health Services.

Office of the Dean of Student Services
PJ Miller, PhD, Dean of Student Services
K McGrath, Administrative Officer

Career and Placement Services
W Coffin, Director

Disabled Student Services
M Vosahlo, BA, Director
M Hyndman, BA, Admin Asst/Coord of Vol Pgm
A Kelly, BEd (PE), Admin Asst/Coord of Vol Pgm
W Wall, Secretary/Receptionist
C Pearson, BSW, Admin Educ Interpreter
D Piper, Admin Educ Interpreter
K Kovach, MEd, Counsellor/Admin Learning Disabled Student Program (LDSP)
E Mortemore, BEd, Instructor LDSP
J Eadie, BEd, Instructor LDSP
T Krissie, Secretary LDSP

Effective Writing Resources
LE McCallum, PhD, Director
D Clyburn, MA, Instructor
E Cameron, Secretary

International Centre
B Caldwell, BSc (Ed), Director
B Tonge, MSc, Coordinator of Programs
D Weir, BCom, Coordinator of Services
M Wharton, MA, Development Education Officer
J Hendricksen, BA, Information Officer
S Schultz, Administrative Assistant
E Salvador, Receptionist

Native Student Services
R Boehm, PhD, Director
S Cunningham, BA, Community Liaison Officer
J Kaida, BSc, Academic Adviser
B Gibson, MEd, Northern Student Services Officer
M Dumont, Academic Adviser

Student Counselling Services
AR VanderWeil, PhD, Director
RA Davis, PhD, Counsellor
WF Epling, PhD, Counsellor
RC Kimmis, PhD, Counsellor
RM Liburd, PhD, Counsellor
BL Paulson, PhD, Counsellor
PC Sartoris, PhD, Counsellor

Advisory Services Centre
N Sharpe, MA, Coordinator
E Chambers, Administrative Assistant

University Health Services
FB Cookson, BSc(Hons), MD, DRCOG, MCFP, Director
PA Cookson, RN, Assistant to the Director
RH Drebit, FRCPC, Psychiatrist
L Goon, MB BCh, Physician
R Hibbard, MD, FRCPC, Psychiatrist
ND John, FRCPC, Psychiatrist
G McInroy, MB, ChB, DRCOG, Physician
VV Maqubela, MB, ChB, Physician
AM Reid, MB, ChB, Physician
TB Stelfox, MD, Physician
Y Yoneda, MD, FACS, FRCSC, Obst.Gyn.Physician

242.13.26 Technical Services

WH Jopling, BSc (Civil Eng), Director

242.13.27 University Bookstore

JC Malone, BCom, Bookstore Director

242.13.28 University Press

P Banks, RIA, Business Manager
ND Gutteridge, Director
ML Mahoney-Robson, Editor

242.13.29 University Secretariat

EA Schoeck, BA, MA, Director of the University Secretariat, Secretary to General Faculties Council, Information Officer on Appeals and Grievances, Secretary to Deans' Council, and Executive Assistant to the President.

ER Phillips, BA, Associate Director of the University Secretariat, Assistant Secretary to the General Faculties Council, and Coordinator of the Planning and Priorities Committee and the Academic Development Committee.

M Delane, Administrative Officer, Secretary to Committee on Admissions and Transfer, and Coordinator of the GFC Campus Law Review Committee.

243 University Libraries

243.1 Administration

Director of Libraries
EB Ingles, BA, MA, MLS

Executive Assistant
T James, BA, BLS

243.2 Access and Information Services

Associate Librarian
BJ Busch, AB, AMLS, MA

Collections and Preservation Services
M Distad, BA, MA, PLD, MLS

Interlibrary Loan and Document Delivery

243.3 Administrative Services

Associate Librarian
JD Teskey, BA, MLS

Financial Systems and Analysis
Head, M Sherban

University Archives
Chief Archivist
BE Corbett, BA (Hons) MA, CSP
Assistant Archivist
GB McLaren, BA, ML

243.4 Library Processing Services

Associate Librarian
SE Rooney, BA, BLS, MA

Administrative Professional Officer
D Hazlett

243.4.1 Orders

Librarians
WS Allison, BA, BEd, MA, MLS
BE Hobbs, BA, BLS
AD Rutkowski, BA, MA, MA in LS
S VanHaitsma, BSc, BLS

243.4.2 Cataloguing Services

Head
S Laskowski, BA, BLS

Librarians
S Aquila, BA, MLS
K Carter, BA, BLS
AK Chan, BA, MLS
P Figueroa, BA, BSL, MLS
E Howe, BEd, MLS
Van Janssen, BEd, MLS
J Kowalyk, BA, MLS
A Kujansuu, BA, MA, BLS
M May, BMus, MLS
H Olson, BA, MLS
L Seale, BA, MLS
A Smithers, BSc, MLS
TM Vasquez, BSc, MSLS
G Valli, BA, BLS

Sessionals
L Chor, BSocSci, MLS

Administrative Professional Officer
S Marshall, BEd

243.5 Areas

243.5.1 Faculté Saint-Jean Bibliothèque

Bibliothécaire en chef
J Henley, BA, BLS

Bibliothécaires
D Bugeaud, BA, MLS

Sessional
J Girouard, BA, MLS

243.5.2 Herbert T Coutts (Education) Library

Education Librarian
K DeLong, BA, MLS

Head, Curriculum and Education Reference Services
J Tong, BA, BLS, BEd, MEd

Head, Collections Management
L Aitken, BA, BLS, MLIS

Head, Administrative and Access Services
G Kayler, BA, MLS, MEd

Librarians
M Beristain, BEd, MLS
J Colter, BA, MLS
F Maxwell, BA, MLS
I Scott, BEd, MLS
K Wilson, BA, MLS

243.5.3 Humanities and Social Sciences Library

Humanities and Social Sciences Librarian (Acting)
D Dancik, BA, MLS, MEd

Business Librarian
K West, BA, MLS

Collections Development Librarian
F Ziegler, BA, MLS

Government Publications Librarian
SS Manwaring, BA, BLS

Periodicals and Microforms Librarian
M McClary, BA, DipEd, MLS

Librarians
B Champion, BA, MLS, MA
I Hooper, BA, MLS
K Macmahon, BA, MLS
E Olson, BA, BLS
W Quoika-Stanka, BA, MA, MLS
F Russell, BA, MLS
CD Sharplin, BA
JK Wikeley, BA, MA, ALA, FIL

Sessional
J Williamson, BA, MLIS

243.5.3.1 Bruce Peel Special Collections Library

Special Collections Librarian
JW Charles, AB, MLS

Librarian
JM Green, BA, MLS

243.5.4 Information Technology Services

Information Technology Services Librarian
JD Poff, BA, MA, MLS

Applications Manager
J Heilik, BA, BLS

Computer Search Services Coordinator
SP Rempel, BA, BLS

243.5.5 John A Weir Memorial Law Library

Law Librarian
LV MacPherson, BA, MLIBR, LLB

Collections Coordinator
CM Darichuk, BEd, BLS, LLB

Librarians
B Burrows, BSc, BLS
DC Rollins, BSc, MLS
MB Storozuk, BA, BLS
S Wilkins, BA, MLS

243.5.6 John W Scott Health Sciences Library

Health Sciences Librarian
S Chetner, BA, BLS

Collections Coordinator
J Buckingham, BA, MLS

Reference Coordinator
LK Starr, BSc, MLS

Librarians
M Dorgan, BA, MLS
S Shores, BA, MLS
L Slater, BEd, BA, MLS
L Sutherland, BScN, MLS

243.5.7 Science and Technology Library

Science and Technology Librarian
ME Young, BSc, MSLS

Collections Coordinator
DL Jones, BSc, MLS

Reference Coordinator
V Kunda, BSc, BLS

Librarians
S Campbell, BA, MLS
M Jamieson, BA, MLS
J Miletich, BA, MLS
S Moysa, BA, BLS
RP Reichardt, BSc, MLS

243.5.7.1 Canadian Circumpolar Library

Head
R Minion, BA, MLS

243.5 University Library

The resources of the University of Alberta Library system comprise one of the major research collections in Canada. The system consists of 13 subject collections with a total of over 3,400,000 volumes, 735,000 government documents, 19,000 serial subscriptions, audiovisual resources, and a large collection of research materials in microform.

Collection access is provided through an online computerized catalogue system, and a card catalogue for older materials. The Library offers electronic literature searching of several hundred commercial databases, and provides interlibrary loan service through a network of research collections in North America and around the world.

The Humanities and Social Sciences Library includes a 1.5 million volume monograph collection in Rutherford North; the Periodical and Microform Centre in Rutherford South (containing current, bound and micro editions of thousands of periodicals plus Canadian and foreign newspapers); Government Publications and Reserve Reading Room in Cameron Library; and the business reference library at the Winspear Reading Room in the Business Building. A large reference collection of indexes, handbooks, and statistical sources, provides access to the literature in the humanities and social sciences.

The Bruce Peel Special Collections Library is located on the lower level of Rutherford South. This collection of approximately 75,000 volumes houses the University's rare books in the humanities and social sciences. It also includes some literary manuscripts, Western Canadian papers, and the archival collection of all the University of Alberta theses and dissertations. Major holdings in English literature include: John Bunyan, John Milton, DH Lawrence, 18th century plays, and three-decker novels with emphasis on the Minerva Press. Western Canadiana is another collection area, as is 20th century fine printing from England, the United States, and Canada.

The Science and Technology Library occupies the first, second, and third floors of Cameron Library. This collection consists of books, government publications, and a large number of periodicals of a scientific nature in the areas of agriculture and forestry, engineering, science, and home economics. The Head of this library is also responsible for four branch libraries: the Mathematics Branch Library, located in the Central Academic Building; the Physical Sciences Branch Library, located in the Chemistry Building; the Computing Sciences Reading Room, located in the General Services Building; and the Canadian Circumpolar Library, located on the Ground Floor, Cameron Library. The Canadian Circumpolar Library specializes in information resources about Arctic and sub-Arctic regions of the world.

Cameron Library also houses Information Technology Services, Operational Support Services, Administrative Services, and Interlibrary Loans/Photocopy Services.

The John W Scott Health Sciences Library, in the Walter C Mackenzie Health Sciences Centre, contains books and periodicals for the field of medicine, dentistry, nursing, pharmacy, rehabilitation medicine, health services administration, dental hygiene, and related basic sciences. It also houses a reserve book collection for these subject areas and a reference collection which includes indexes, abstracts, and government documents. Historical materials are found in the Phyllis Russell Rare Book Room. Audiovisual material on health-related topics as well as the necessary equipment for their use are available at the Media Desk.

The John A Weir Memorial Law Library is in the Law Centre located on 111th Street and 89th Avenue. The Library contains law reports, statutes, and regulations for the Canadian federal, provincial, and territorial government, the United Kingdom, other Commonwealth countries, and the United States. It also has periodicals, treatises and textbooks, government documents, and reference sources. The collection includes books, microform materials, audio and video tapes, and access to electronic databases. The Library has extensive collections in oil and gas, health, and communications law. The collections are totally accessible through the online catalogue.

The other major library on campus is the Herbert T Coutts (Education) Library which occupies the three-storey east wing of the Education Building. Although collections in Rutherford, Cameron, and the John A Weir libraries are important resources for education topics, this is the primary resource library for the Faculty of Education. The Education Collection (located on the main and second floors) contains material on the theory and practice of teaching. The Curriculum Collection (located in the basement) contains curriculum guides and classroom materials for use with students from kindergarten to the Grade XII level.

The Bibliothèque Faculté Saint-Jean is located at 8406 - 91 Street. It contains 60,000 volumes (monographs, periodicals, and government documents) mainly in the humanities, social sciences, and education. The collection emphasizes French Canadian history and literature. Materials are in both official languages with an emphasis on French.

The University Archives rejoined the Library System in the summer of 1990. Located in Rutherford South Library, the University Archives is responsible for the preservation and research use of the historical records of the University of Alberta.

244 Research Centres and Institutions

244.1 Alberta Institute of Pedology

The Institute of Pedology is an organization of soil scientists with headquarters at the University. It was organized in 1968 by agreement between the University, the Research Council of Alberta, and the Research Branch of the Canada Department of Agriculture. The Institute consists of all pedologists in the Soil Science Department of the University, the Terrain Sciences Department of the Alberta Research Council and the Alberta Pedology Unit of the Land Resources Research Centre, Agriculture Canada.

The Institute is involved in coordinating work in the following fields: soil survey in Alberta, research in pedology, compilation and publication of information on soils, interpretation of basic data on Alberta soils for use by all disciplines, and the clearing of requests for assistance and/or cooperation from other institutions concerned with pedological data.

The Institute is authorized to accept funds in support of investigations requested by donors. The Technical Coordinating Committee may administer funds, exclusive of the budgets of the cooperating institutions, accepted by the Institute to assist it in achieving its objectives.

The Chair of the Soil Science Department of the University is ex-officio Chair of the Technical Coordinating Committee.

244.2 Alberta Law Reform Institute

Board of Directors
EE Dais
CW Dalton
JL Foster, QC
A Fruman
AD Hunter, QC, Chair
WH Hurlburt, QC
HJL Irwin
DP Jones, QC
PJM Lown
JP Meekison
Madam Justice BL Rawlins
ACL Sims, QC
CG Watkins

Director
PJM Lown

Counsel
RH Bowes
C Gauk
JGE Henderson-Lypkie
MA Shone
ET Spink

Directors Emeriti
WF Bowker, QC
WH Hurlburt, QC

The Alberta Law Reform Institute was established in November 1967 by agreement between the Provincial Government, the Law Society of Alberta, and the University. Its primary object is to promote law reform, particularly at the provincial level. It undertakes legal research in connection with its law reform work. By March 1990 the Institute had made 57 final reports to the government in connection with law reform covering a wide range of subjects. Recent reports include: Towards Reform of the Law Relating to Cohabitation Outside Marriage; Financial Assistance by a Corporation: Section 42, The Business Corporations Act (Alberta); Limitations; The Bulk Sales Act; and Section 16 of the Matrimonial Property Act. A high percentage of the Institute's reports have been, or are currently being enacted into legislation. From time to time members of the Institute's legal staff present and publish learned papers which often are prompted by work on law reform projects although they may not be directly connected with them.

244.3 Alberta Microelectronic Centre

Chair of the Board
H Schaefer

President
J Zupancic

The Alberta Microelectronic Centre is dedicated to the development of a strong microelectronic technology base in the Province of Aiberta.

The AMC was established in 1982 with initial assistance from the federal government as a non-profit company wholly owned by the University of Alberta. The Centre is now an integral part of the high technology network supported by the Alberta Government Department of Technology, Research and Telecommunications. The AMC is governed by the Board of Directors comprised of government, university, and industry representatives.

The Centre's mandate is to promote and support the development and application of microelectronics technology throughout the province. This is accomplished through education programs, design and applications services, product development, prototype manufacture, and research activities.

The AMC facilities include a fabrication facility for manufacturing application specific integrated circuits (ASIC's), a microelectronics research laboratory, an applications development service, and an ASIC design centre in Calgary.

The AMC supports university research through a graduate student scholarship program and by providing access to the design and fabrication facilities.

244.4 Alberta Telecommunications Research Centre

President
R Fortune

Vice-President Administration
W Olsen

Vice-President Research Strategy
W Grover

Director - Business Development
M Leung

Director - Networks & Systems
W Grover

Director - Photonics
RI MacDonald

Director - Wireless
G Squires

The Alberta Telecommunications Research Centre (ATRC) is a private, non-profit research institute incorporated by the University of Alberta in 1986. ATRC was established with three charter sponsors: the University of Alberta, the Government of Alberta and Bell-Northern Research Ltd. Additional sponsors include: the University of Calgary, Alberta Government Telephones, ED TEL, LSI Logic Corporation of Canada, Inc., Digital Equipment of Canada, and NovAtel Communications Ltd. Sponsors contribute funding, services in kind, or both, to the Centre and have preferred access to research results and personnel.

ATRC conducts applied research to provide a bridge between basic research conducted at universities and product development conducted by industry. The research program has three technology thrusts: Networks and Systems; Photonics; and Wireless. These major thrusts are closely aligned to the needs of the sponsors and to current developments and business opportunities in the telecommunications and related industries.

The staff at ATRC is a mix of professors and students from the affiliated universities; attached scientific staff from industrial sponsors; and ATRC scientific, management, and support staff. ATRC's research teams involve personnel from all these sources.

244.5 Applied Mathematics Institute

Director
HI Freedman, PhD, Mathematics

The Applied Mathematics Institute was established in 1987 to promote research in applied mathematics. The active membership is comprised of University and non-University researchers actively engaged in the application of mathematics. The research interests of the membership are extremely varied and reflect the diverse and interdisciplinary nature of modern applied mathematics. The research interests of the membership include traditional or classical disciplines such as elasticity, computational and theoretical fluid dynamics, statistics, and mathematical physics and also other disciplines such as zoology, theoretical seismology, meteorology and physical oceanography, optimal control theory, mathematical economics, chaos, parallel computing, and mathematical biology.

The Applied Mathematics Institute has an established visitors program which provides partial support for guest speakers and research collaborators. The Institute sponsors a biweekly colloquium and also co-sponsors from time to time conferences and research workshops. The Applied Mathematics Institute organizes the publication of the *Newsletter* of the Canadian Applied Mathematics Society. The Applied Mathematics Institute also publishes the AMI Newsletter to promote and publicize the activities of the Institute membership. In cooperation with the Canadian Applied Mathematics Society, the AMI publishes an international journal, the *Canadian Applied Mathematics Quarterly*. Anyone interested in being placed on the mailing list for the AMI Newsletter should contact the Director.

244.6 Canadian Circumpolar Institute (CCI) Institut circumpolaire canadien (ICC)
215 Central Academic Building

Institute Staff
C Hickey, PhD, Northern Research Coordinator and Director
EL Maloney-Gignac, BSL, Administrator
MMR Freeman, HMT Professor, Senior Research Scholar
RJ Mahnic, Director, Communications and Development
G McCaughey, Director, Publications

Unviersity of Alberta Northern Research Committee (UANRC) and Advisory Board Members
C Hickey, PhD (Anthopology) (Chair)
S Bayley, PhD (Botany)
J England, PhD (Geography)
MMR Freeman, PhD (Anthropology)
I MacLaren, PhD (English)
H Pabst, MD FRCP(C) (Paediatrics)

Ex-Officio
RL Busch, Associate Vice-President (Research)
R Minion, Head Librarian, Canadian Circumpolar Library
RJ Mahnic, Director, Communications and Development

External Members of the Advisory Board
J Kelley, PhD (Institute of Marine Sciences, University of Alaska, Fairbanks)
JD Heyland, PhD (Science Institute of the Northwest Territories, Yellowknife)
M Periard, Saddle Lake, Alberta

The Canadian Circumpolar Institute (formerly the Boreal Institute for Northern Studies) services the University of Alberta as its centre for research on the northern regions of Canada and other circumpolar nations. The CCI sponsors research, supports conferences, encourages exchanges of research associates, directs a publications program, and advises on policy regarding the University's Canadian Circumpolar Library.

Research is the focus of the Institute's activities. Under the direction of the CCI, annual "seed money" grants, in support of short-term circumpolar and northern research projects, are awarded. To support approved projects there are three separate programs available to graduate students and to academic staff (see Awards §225.4.9). Longer-term and larger-scale research programs, as well as a variety of grant-funded and contract research, also operate under the aegis of the CCI.

The CCI is served by a multidisciplinary library, located on the ground floor of Cameron Library. Its 200,000 item collection features concentrations of materials in all disciplines relative to Canada north of 60, Alaska, Greenland, and Canadian Native peoples, while materials relating to other circumpolar and cold regions, and to northern issues are acquired selectively. The Canadian Circumpolar Library subscribes to newspapers and newsletters from communities north of 60, and to a great many periodicals concerning northern regions. It maintains a Stanford Public Information Retrieval System (SPIRES) on-line database of its holdings, called BOREAL, which can be searched on the University's computer or on CAN/OLE. The Library also produces computerized indexes to the collections as well as other research tools. The Northern Titles KWIC Index collects headlines from Native and other northern newspapers and first-named authors and titles from journal articles, government documents, and other ephemerae received by the Library. At present, the Canadian Circumpolar Library is working with other institutions to establish a Canadian Polar Information System.

The publications program of the CCI comprises two series, both peer-reviewed: the Occasional Publications Series publishes selected conference proceedings, collections of papers, and monographs resulting from scholarly research; the Circumpolar Research Series features monographs focusing primarily, but not exclusively, on interdisciplinary scholarly research in international circumpolar studies.

Beyond the University, the CCI establishes liaisons with other institutes through the exchange of researchers, exchanges of its publications, participation in the Northern Libraries Colloquy, and prominent involvement of its affiliated researchers at national and international conferences. From time to time, formal exchange agreements are struck between the CCI and other institutes of northern and circumpolar research. A regular newsletter informs readers on and off campus of current and future activities relevant to the Institute's area of interest.

Within the University, the CCI cooperates with all faculties offering courses or conducting research on northern studies. The Unviersity of Alberta Northern Research Committee (UANRC) – made up of the on-campus members of CCI's Advisory Board – includes representation from various University faculties. The UANRC works in cooperation with the Institue's Coordinator to initiate policy. Further, it advises the Office of the Vice-President (Research) and informs the general University community on northern and circumpolar issues and matters.

Administrative offices of the CCI are located in Rooms 207/215 of the Central Academic Building. Enquiries regarding the work of the Institute should be addressed to the Office of the Coordinator (CAB 215); information concerning the Canadian Circumpolar Library, including its reference services, can be obtained from the Institute's Librarian, at Cameron Library.

244.7 Canadian Institute of Ukrainian Studies

Director
BA Krawchenko, DPhil

Assistant Professor
AJ Hornjatkevyc, PhD

Advisory Council
JP Himka, PhD
O Ilnytzkyj, PhD
R Morse, MA
WR Petryshyn, PhD
AD Rutkowski, MA
J Sokolowski, MA
DH Struk, PhD

The Canadian Institute of Ukrainian Studies was established in 1976 with the following objectives: (i) to encourage research and publications in Ukrainian studies; (ii) to serve as a resource centre for English-Ukrainian bilingual education; (iii) to encourage contacts among scholars and students in Ukrainian studies through seminars and conferences. The Institute offers no courses or degree programs.

CIUS Press has published some 70 titles to date. The Press also publishes research reports. The Institute is preparing a five-volume alphabetical Encyclopedia of Ukraine in association with the Shevchenko Scientific Society at Sarcelles (near Paris) and the Canadian Foundation for Ukrainian Studies. The encyclopedia is published by the University of Toronto Press. Work on the encyclopedia is coordinated by the Institute's office located in the Department of Slavic Languages and Literatures at the University of Toronto. The Institute also publishes a semi-annual Journal of Ukrainian Studies and a newsletter.

Located at the Institute is the Ukrainian Language Education Centre whose purpose is to prepare learning resources for Ukrainian language instruction in the English-Ukrainian bilingual schools, and other types of programs. The Centre also encourages research on the problems of English-Ukrainian bilingualism, services the professional needs of teachers, and maintains print and audio-visual Ukrainian language educational resources. The Institute is also home to the Peter Jacyk Centre for Ukrainian Historical Research which sponsors research and publishing on Ukrainian history.

The Institute offers research grants to bona fide scholars in Ukrainian and Ukrainian-Canadian studies, as well as undergraduate and graduate scholarships. The Institute has wide ranging contacts and exchange agreements with institutions in the Ukrainian SSR. The Institute also administers post-doctoral and research fellowships offered by the Canadian Foundation for Ukrainian Studies. Other activities include a visiting professor's program and organization of the annual Shevchenko lecture.

The Institute is under the jurisdiction of the Vice-President (Research). Policy is developed by the Director, assisted by an advisory committee of research associates and the Advisory Council. Inquiries should be addressed to the Director of the Institute.

§244.8 Reserved.

244.9 Centre for Advanced Study in Theoretical Psychology

Director
LP Mos, PhD

Faculty
DL Kuiken, PhD
WW Rozeboom, PhD

Canada Research Fellow
WE Smythe, PhD

Adjunct Faculty
WJ Baker, PhD
LT Yeudall, PhD

University Professor
TM Nelson, PhD

Established in 1965, the Centre for Advanced Study in Theoretical Psychology offers a program of formal and informal seminars and forums for research into the foundation of the psychological sciences. The program is directed toward explicating the methodological and philosophical presuppositions guiding the diversity of theoretical viewpoints in basic and applied research as well as psychological practice.

Current Centre faculty members' research interests are focused in cognitive and language studies, aesthetic and hermeneutic theory, and logic of explanation.

The Centre sponsors conferences and publishes proceedings of the International Society of Theoretical Psychology, and publishes the Annals of Theoretical Psychology.

244.10 Centre for Criminological Research (CCR)

Coordinator
LW Kennedy, PhD

Steering Committee
H Boritch, PhD
J Creechan, PhD
J Hackler, PhD
T Hartnagel, PhD
L Kennedy, PhD
R Silverman, PhD

The Centre for Criminological Research was established in January of 1978 as part of the Population Research Laboratory. Major functions of the CCR include research training of students, conducting of research in crime and delinquency, and providing an exchange of information through seminars. A series of discussion papers is also published.

244.11 Centre for Experimental Sociology

Director
WD Pierce, PhD, Sociology (University of Alberta)

Executive Committee
WD Pierce, PhD, Sociology (University of Alberta)
WF Epling, PhD, Psychology (University of Alberta)

Associates
D Boer, PhD, Psychology (Concordia College)
A Coldeway, PhD, Psychology (Concordia College)
A Harrell, PhD, Sociology (University of Alberta)
D Heth, PhD, Psychology (University of Alberta)
R Powell, PhD, Psychology (Grant MacEwan)

Student Affiliates (Graduate)
J Cameron, Provisional PhD Candidate, Educational Psychology (University of Alberta)
T Kwan, MSc Candidate, Psychology (University of Alberta)

Student Affiliates (Undergraduate
R Rose, Honors Psychology (University of Alberta)
B Cech, Honors Psychology (University of Alberta)
L Kondratski, Honors Psychology (University of Alberta)
D Symbaluk, Honors Sociology (University of Alberta)

The Centre was established in 1976 as a modern research facility that permits experimental analysis of human behavior. Major functions of the Centre include: promoting research and publication on human behaviour; providing information and discussion about human behaviour through a weekly seminar; and, contributing to the intellectual climate of the University through invited presentations by scholars in the fields of sociology, psychology and the biological sciences.

244.12 Centre for Frontier Engineering Research

President
T Nasseri, PhD, Engineering

The Centre for Frontier Engineering Research (C-FER) is a not-for-profit research organization established in 1983 to conduct engineering research for the safe and economical development of frontier resources. Financial support for the Centre comes from Canada's leading resource and service industries, academic institutions and government agencies and laboratories.

C-FER offers a broad range of services through the integration of expertise in disciplines including: structural analysis and engineering; cold regions and offshore engineering; mathematical modelling and numerical analysis; materials science and engineering; risk and reliability analysis; synthesis and analysis of information. Core and contract research is carried out within departments including: offshore and marine technology; downhole technology; product and application development; and materials and manufacturing technology.

C-FER's new $18 million facility in the Edmonton Research Park features an unique combination of testing and analysis tools designed to simulate realistic design, loading and environmental conditions for testing materials, components, structures and downhole systems. Laboratories include a large cold chamber, two state-of-the-art loading systems and a self-contained special environments system.

In addition to research, C-FER is committed to networking, a program of technology transfer involving not only the acquisition and dissemination of information, but also its synthesis and strategic application to decision-making.

244.13 Centre for Gerontonolgy

Director and Chair of the Board
BG Rule

Administrative Assistant
L Abraham

The Centre for Gerontology was established in 1983 as a research unit operating under the auspices of the Vice-President (Research) at the University of Alberta. The Director and a voluntary board of gerontological researchers governs the operation of the Centre.

The overall objective of the Centre is to enhance the understanding of the aged individual and of the dynamics of the aging process, by means of:

(1) fostering, conducting and coordinating research on aging

(2) providing and disseminating research findings to researchers, practitioners, policy makers and administrators of services to older people

(3) encouraging the development and implementation of courses and programs in gerontology.

The Centre's research activities and services include: an annual up-dated publication listing gerontological research by staff and graduate students; research symposia on selected aspects of aging; the facilitation of research interest groups.

The Centre's education activities and services include: development of multi-disciplinary research projects; a quarterly newsletter; community speaking engagements; participation in media probes of issues in aging; an annual publication of the courses in gerontology offered on campus; participating in an advisory committee for the Faculty of Extension, Certificate Program in Gerontology.

244.14 Centre for Studies in Clinical Education

Director
P Hagler, PhD

Executive Committee (Ex-Officio)
L McFarlane, BSc
S Rennie, MSc
R Urbanowski, MSc
J Vargo, PhD

The Centre for Studies in Clinical Education was established in 1989 by the Faculty of Rehabilitation Medicine which includes the Departments of Occupational Therapy, Physical Therapy, and Speech Pathology and Audiology. Objectives are to promote research on the clinical education process, foster continuing education for clinical supervisors in rehabilitation medicine, serve as a clearing house for practicum policies within the faculty, promote positive relationships with the clinical community, maintain student practicum records, and encourage graduate study of the clinical education and clinical supervisory processes.

The Centre maintains a database of affiliated institutions and their employees who hold joint clinical teaching appointments. It organizes workshops for participating clinical supervisors and joint clinical appointment holders and sponsors annual social events to recognize the important contribution of these clinical professionals to student training. Current research projects relate to student coping strategies during practicum, selection procedures for the quota programs, graduate follow-up surveys, supervisor effectiveness, and cost-benefit analysis of student training in clinical service facilities.

244.15 Developmental Disabilities Centre

Director
JP Das, PhD

Editor of Developmental Disabilities Bulletin
R Sobsey, PhD

The objectives of the Developmental Disabilities Centre are:

(1) to pursue research of an interdisciplinary nature into the problems of intellectual subnormality;

(2) to encourage faculty and graduate students to carry out investigations in the field of developmental disabilities; and

(3) to provide facilities for clinical investigation and remediation of the child with learning handicaps from biomedical, educational, and psychological aspects, and to provide interdisciplinary training for students in these areas.

The Centre seeks and receives grants from government agencies and private organizations for research and demonstration projects so as to understand the nature of intellectual subnormality and learning disorders, and to devise methods for their prevention and treatment. A journal, Developmental Disabilities Bulletin, is published twice a year by the Centre.

244.16 Devonian Botanic Garden

Director
PND Seymour, BSc

Associate Director
KE Denford, PhD

Research Associate
RS Currah, PhD
LS Sigler, MSc

The Devonian Botanic Garden was founded in 1959 on 80 acres of land near Devon donated by the late HA Dyde (QC, LLD, OBE). It has been developed on naturalistic lines. Part of it is a nature conserve, and there are two ecological reserves.

The aims and objectives of the Devonian Botanic Garden include the following:

(1) To establish a collection of cultivated plants hardy in the Edmonton region and to establish a collection of indigenous plants of Alberta, both for University teaching, research, and public education.

(2) To conduct plant introduction and winter hardiness trials with the aim of increasing the range of plants grown in the Edmonton region.

(3) To seek out variations in native materials suitable for introduction as ornamental plants.

(4) To maintain a garden of plants used by the native peoples of Alberta.

(5) To take part in the International Seed Exchange with some 400 world-wide institutions and botanic gardens.

(6) To provide outdoor laboratory space for the University and other institutes of learning.

(7) To conduct taxonomic and applied research into ornamental and native plants and to maintain a herbarium of species used in these research projects.

(8) To maintain a collection of living fungi, the Microfungus Collection and Herbarium, for applied and systematic research on an international basis.

(9) To enable the public to become aware of, and appreciate, one of the many aspects of the extension work of the University in a congenial setting.

(11) To encourage public interest in, and support for the Garden by means of the Friends of the Devonian Botanic Garden.

(12) To publish informative bulletins and to conduct a Public Education Program.

The Devonian Botanic Garden is situated 9.5 kilometres west of Edmonton on Highway 16 and 14.5 kilometres south on Highway 60.

244.17 Institute of Earth and Planetary Physics

Council of the Institute
FS Chia, PhD, Chair
CR James, PhD
WJ McDonald, PhD
BD Chatterton, PhD
HR Glyde, PhD
MJ Hodgson, PhD

Director
G Rostoker, PhD

Associate Director
EP Lozowski, PhD

Academic Staff
RB Charlton, PhD
GL Cumming, PhD
ME Evans, PhD
DI Gough, PhD, FRSC, FAGU (Professor Emeritus)
J Gray, PhD
KD Hage, PhD (Professor Emeritus)
DH Halliwell, PhD
F Hron, D Nat Sci
FW Jones, PhD
ER Kanasewich, PhD, FRSC
EP Lozowski, PhD
RW Luth, PhD
RD Morton, PhD
E Nyland, PhD
D Rankin, PhD (Professor Emeritus)
ER Reinelt, PhD (Professor Emeritus)
G Rostoker, PhD
JC Samson, PhD
DR Schmitt, PhD
TJT Spanos, PhD
GE Swaters, PhD
JD Wilson, PhD

The Institute of Earth and Planetary Physics was founded in 1970 with the aid of a Negotiated Development Grant from the National Research Council. Its support has since been assumed by the University. The institute unites geophysicists in the Departments of Physics, Mathematics and Geology and meteorologists in the Department of Geography for the promotion of research in Earth and planetary physics. The scientific members of the Institute include the academic staff listed above, about 10 research associates and about 50 graduate students registered in the three Departments. Technical assistance is provided by staff of the Departments of Physics, Geology and Geography. One or more distinguished visitors are invited each year for two or three months and, in addition, short term visits by distinguished researchers are arranged.

Research topics in which Institute members are active include seismology, geomagnetism, electromagnetic induction in the Earth, paleomagnetism and rock magnetism, plate tectonics, high pressure studies of the Earth's interior, time series analysis, mass spectrometry applied to geochronology and to stable isotopes, synoptic-scale and local-scale meteorological studies including studies of atmospheric and oceanic pollution, and space physics especially of the magnetosphere and environment of the Earth-Sun system.

244.18 R S McLaughlin Examination and Research Centre

See §121.3.5 of this Calendar.

244.19 Population Research Laboratory (PRL)

Director
H Krahn, PhD, Sociology

Research Associates – From the University of Alberta
T Burton, PhD, Recreation and Leisure Studies
J Gartrell, PhD, Sociology
K Gupta, PhD, Economics
C Hobart, PhD, Sociology
R Ironside, PhD, Geography
G Jarvis, PhD, Sociology
L Kennedy, PhD, Sociology
L Kosinski, PhD, Geography
P Krishnan, PhD, Sociology
K Krotki, PhD, Sociology
G Lowe, PhD, Sociology
S McDaniel, PhD, Sociology
W Mcvey, PhD, Sociology
C Meilicke, PhD, Health Services Administration
D Murri, PhD, Rural Economy
A Nakamura, PhD, Business
M Nakamura, PhD, Business
M Percy, PhD, Economics
R Silverman, PhD, Sociology
E Snider, PhD, Sociology
F Trovato, PhD, Sociology

Research Associates – Outside the University of Alberta
A Kayani, PhD, College of Allied Medical Sciences, King Saud University, Saudi Arabia
D Stokes, PhD, Alberta Environment
T White, PhD, Brock University

Faculty Service Officers
N Lalu, PhD
N Mehra, DEd (on leave)

The Population Research Laboratory (PRL) is a research arm of the Department of Sociology, University of Alberta. Established in 1966, it is the largest and longest-running demographic and social survey research unit in Western Canada. The PRL has four major functions: teaching students within the Sociology programs; serving the research and information needs of Sociology faculty members and graduate students as well as providing similar assistance to other University departments and community groups; undertaking original research in demography and a variety of areas within sociology; sponsoring publications and conferences.

As part of its teaching function, the PRL sponsors with University Computing Systems the two-week Summer Institute on Quantitative Analysis of Social Data. The objectives of the Summer Institute are (1) to teach participants quantitative research methods; (2) to introduce them to applications in data analysis; and (3) to train them in statistical computing techniques.

Research projects carried out by PRL staff and research associates cover a wide range of areas: population studies of fertility, mortality, and migration; population projections, and analyses of demographic methods; and social surveys in the areas of quality of life, criminology, labor market dynamics, family processes, housing and public opinion. The PRL has conducted the Edmonton Area Study, a random sample survey of Edmonton adults, annually since 1977. Since 1987 the study has been expanded into the Alberta Survey by including a telephone survey of the complete province. Also since 1987, an annual all-Alberta telephone survey has also been completed.

The PRL's publication program includes Canadian Studies in Population, a demography journal published jointly with the Canadian Population Society; a quarterly newsletter "In Summary"; two working paper series (Research Discussion Papers and Alberta/Edmonton Series Reports); a Population Reprint series; and a Survey Highlights series.

244.20 Research Institute for Comparative Literature

Director
MV Dimic

Directors of Divisions
SH Arnold (African-Caribbean Division)
ED Blodgett (Canadian Division and Associate Editor of *Canadian Review of Comparative Literature/Revue Canadienne de Littérature Comparée*)
MV Dimic (Romanticism Division, Editor of *Canadian Review of Comparative Literature/Revue Canadienne de Littérature Comparée*)
H Kreisel (Acting, Literature, and the Other Arts)

Research Associate
S Totosy de Zepetnek (Assistant Editor of *Canadian Review of Comparative Literature/Revue Canadienne de Littérature Comparée*)

The Research Institute for Comparative Literature was founded in 1985. The purpose of the Institute is to foster interdisciplinary and team, as well as individual research in Comparative Literature (i.e., general literary scholarship, theory, and methodology) in collaboration with scholars from the University of Alberta and other Canadian and foreign universities. Depending on funding, post-graduate and post-doctoral positions are offered by the Institute.
The Institute is involved in the following programs:

(1) "Towards a History of the Literary Institution in Canada" - in collaboration with over 60 scholars from Canada and abroad.

(2) "Romanticism in European Literatures" - in the series *A Comparative History of Literature in European Languages* - in collaboration with the International Comparative Literature Association.

(3) African-Carribbean Studies - in collaboration with the African Literature Association, the Canadian Association of African Studies, Heinemann's Educational Books, African World Press, and Three Continents Press.

(4) Support for the editorial work and administration of the *Canadian Review of Comparative Literature/ Revue Canadienne de Littérature Comparée*

(5) Proposed program - "Literature and the Other Arts" - in collaboration with some 30 scholars from various departments of the University of Alberta.

Publications:

(1) Proceedings of conferences held (*Problems of Literary Reception*, 1986. *Questions of Funding, Publishing and Distribution*, 1987. *Prefaces and Literary Manifestoes*, 1987. *Literatures of Lesser Diffusion*, 1988.) for "Towards a History of the Literary Institution in Canada."

(2) Publications in the series *A Comparative History of Literature in European Languages.*

(3) African Literature Studies - SH Arnold, ed., *The Present State/L'Etat présent*, 1985. J Ngete, *Francophone African Fiction: Reading a Literary Tradition*, 1988. RK Priebe, *Myth, Realism, and the West African Writer*, 1988.

(4) Newsletters of the Institute - *Update/Mise à jour* and other publications of research results of the project "Towards a History of the Literary Institution in Canada".

244.21 Surgical-Medical Research Institute

See §121.3.4 of this Calendar.

244.22 The Nuclear Research Centre

Director
P Kitching, PhD

Professor Emeriti
GC Neilson, PhD

Academic Staff
WK Dawson, PhD
LG Greeniaus, PhD
FC Khanna, PhD
WJ McDonald, PhD
WC Olsen, PhD
N Rodning, PhD
G Roy, PhD
HS Sherif, PhD

Research Staff
R Abegg, PhD
EB Cairns, BSc
PW Green, PhD
DP Gurd, PhD
DA Hutcheon, PhD
N Kolb, PhD

E Korkmaz, PhD
D Mack, PhD
CA Miller, PhD
B Peterson, PhD
J Soukup, PhD
GM Stinson, PhD

The Nuclear Research Centre conducts studies to determine the fundamental properties of nucleons and nuclei. The staff is directly involved in the experimental program of the 500 million electron volt cyclotron at Vancouver (TRIUMF Project). This is a cooperative project of the University of Alberta, the University of British Columbia, Simon Fraser University, and the University of Victoria.

In addition, staff are involved in collaborative programs using the AGS accelerator at Brookhaven, USA; the Saturne accelorator at Saclay, France; the linear electron accelorator at the Bates Laboratory, MIT, USA; the continuous electron beam at the Saskatoon Linear Accelorator Laboratory, and the HERA facilty at DESY in Hamburg, Germany. The Centre offers research fellowships to physicists for research in subatomic physics.

244.23 Theoretical Physics Institute

Director
FC Khanna

Honorary Members
DD Betts, PhD, FRSC
H Frohlich, PhD, FRS
LEH Trainor, PhD
M Wyman, PhD, FRSC, Professor Emeritus

Active Members
BA Campbell, PhD
AZ Capri, PhD
HR Glyde, PhD
ZW Gortel, PhD
W Israel, PhD, FRSC, FRS
AN Kamal, PhD
FC Khanna, PhD
HP Kunzle, PhD
M Legare, PhD
G Ludwig, PhD
DN Page, PhD
BV Paranjape, PhD
M Razavy, PhD
W Rozmus, PhD
HS Sherif, PhD
J Stephenson, PhD
Y Takahashi, DSc, MRIA, FRSC
WR Thorson, PhD
JA Tuszynski, PhD
H Umezawa, PhD, FRSC, Killam Professor

Associate Members
FA Baragar, PhD
W Brouwer, PhD
BL Clarke, PhD

Emeritus Member
H Schiff, PhD

The Theoretical Physics Institute was established in 1960 to promote research in theoretical physics. The active membership is comprised of the University staff actively engaged in research in theoretical physics. Their research interests range over astrophysics, statistical physics, many-body theory, general relativity, elementary particles, nuclear physics, non-linear fields, properties of metals and semi-conductors, quantum field theory, quantum liquids and solids, chemical physics and condensed matter physics.

There are also normally about a dozen postdoctoral fellows and research associates carrying out research under the direction of the permanent members. In addition, the Institute offers special visiting fellowships for periods of one month to one year to visiting physicists of distinction. A support staff of one secretary and one computer programming analyst provides technical assistance.

244.24 Water Resources Centre

Director
DS Chanasyk, PhD

The Water Resources Centre fosters basic and applied water resources research at the University of Alberta by securing exchange and cooperation among researchers in water resources from different scientific disciplines, by encouraging response of the University to public needs concerning water, and by maintaining a research capability in water resources. Stimulation of public interest and improved communication in water resources is achieved through conferences, seminars, and other activities.

244.25 Western Centre for Economic Research

Advisory Board
L Hyndman, Chair
R Basken
C Gilson
D Hall
K Hughes
S MacTaggart
P Meekison
P Pearse
M Williams
R Philips

Executive Committee
ML McMillan, PhD, Department of Economics
WE Phillips, PhD, Department of Rural Economy
GB Reschenthaler, PhD, Department of Marketing and Economic Analysis

Director
EJ Chambers, PhD, Department of Marketing and Economic Analysis

The Western Centre for Economic Research is a research unit sponsored by the Departments of Economics, Rural Economy and the Faculty of Business.

The objectives of the Western Centre for Economic Research are:

(1) to conduct studies into the effects of economic policies and programs on the Western Canadian economy generally and the four provincial economies in particular;

(2) to assess the implications of these programs and policies for the operations of Western Canadian business enterprises;

(3) to monitor the performance of the Western Canadian economy and to provide evaluations that contribute positively to business planning;

(4) to conduct research into other areas of business and economic interest to Western Canadians; and

(5) sponsorship of publications and conferences.

Publication activities are:

(1) Western Studies in Economic Policy Series released through the CD Howe Institutes,

(2) an information bulletin series, and

(3) a quarterly newsletter that provides summaries of research on Western Canada relevant to the Centre's objectives.

245 Alumni Association

Board of Governors
R MacDonald
B Kozoriz

Senate Members
G Fryett
D Stanley

245.1 Alumni Council

C Andrews
B Crawford
S Crevolin
G Fryett
T Hole
V Horne
B Kozoriz
G Lock
R MacDonald
E Macklin
G Maureau
R Mooney
M Neufeld
J Piecash
A Richardson
M Sandilands
M Shortt
G Smith
D Stanley
R Wensel

245.2 Director

SN Peirce, BA

The Alumni Association, formed in 1915, counts among its members over 120,000 graduates world wide and in all walks of life. Upon graduation, without fee, every student automatically becomes a lifetime member.

Members in good standing are entitled to benefits including:

New Trail
Published quarterly, New Trail Magazine travels to the four corners of the world at a voluntary rate of $12.00 per year. New Trail contains feature articles, Association news, and campus and class notes.

Recreational Privileges
Alumni user cards for self and family are available at a special rate, for access to all campus recreational facilities.

Reduced Insurance Rates
In co-operation with major insurance companies, the Association offers alumni life, auto, and home insurance at reduced rates.

Affinity Card
A no-fee Mastercard credit card, administered by one of the major chartered banks, is available to alumni and is a unique method of contribution to the University.

Employment Seminars
At least four times each year, the Association sponsors workshops for graduates who wish to prepare effective resumes and learn job search and job interview techniques in order to make themselves more saleable in the competitive job market.

Travel Programs
A combination of education and entertainment, these programs are arranged by the Association to let you expand your horizons - literally!

Library Privileges
Graduates are welcome to use library materials in place. A special borrower's card is available for alumni at $50.00 annually.

University Affairs
Your perspective is valuable. As a member, you can involve yourself in University government by being named to various University bodies including the Senate and the Board of Governors.

Annual Fund
Your contribution is needed for worthwhile projects. Fund donations are tax-deductible and in many cases, matched by the Provincial Government.

Alumni Branches
These groups of alumni have their own constitution and executive committees and operate under the auspices of the Association. Branch representatives sit on the Alumni Council and organize social and educational functions for graduates in their area. Branches are located in numerous Canadian cities and in several foreign countries.

Faculty Associations
Constituent Alumni Associations are currently organized for the following Faculties, Departments, and special interest groups: Medicine, Dentistry, Pharmacy, Business, Nursing, Library and Information Studies, Education, Health Services Administration, Forestry, Drama, and Native Studies graduates. Administered by the Alumni Association with the cooperation of Faculty/Department staff and graduates, these associations serve to promote the welfare of their specific Faculty/Department or area of special interest.

Class Representatives
Students in their senior year are regularly invited to volunteer for the position of class representative for their department/faculty. Class representatives assist classmates in maintaining contact with one another and the University by organizing reunions and preparing class newsletters. Representatives are the liaison between the class and the Association.

Reunion Weekend
Organized annually by the Association. You're invited. And if you're about to celebrate your 10th, 15th, 20th or more anniversary of graduation, we'd be happy to help organize a class reunion. Organizational booklets on the "how to" of planning a reunion are available to class representatives from the Alumni Office.

Newsletter Service
The Association absorbs all costs of mailing one newsletter per year for each class. Class representatives simply send a typed copy to the Alumni Office and we do the rest. If you are organizing a reunion, we'll send two newsletters that year.

Alumni Scholarships and Awards
The Association sponsors scholarships for future alumni (undergraduate students) and presents special recognition awards to outstanding alumni.

Official Alumni Mementos
Periodically, the Association offers special edition memorabilia to alumni. Items in the past have included official U. of A. watches, a chime clock and a framed sketch of a University building.

Host Family
In conjunction with the U of A's International Centre, alumni families are invited to share friendships and experiences with foreign students attending university.

246 Affiliated Colleges

246.1 On-Campus Colleges

Two denominationally-sponsored colleges, with buildings located on the campus, are related to the University by a form of agreement described as affiliation, and offer certain courses that may be taken for degree credit by students of the University.

246.1.1 St Stephen's College

Academic Staff of the College

Principal
GI Mundle, DMin

Academic Dean
WJ Close, DrTheol

Teaching Faculty
C Bryant, DMin
FA Hare, DMin
R Hankinson, MDiv
B Marlin
G Rodgers, DMin
W Schmidt, PhD
R Warne, PhD
C Woodbury, PhD

General Information
St Stephen's College, an undergraduate and graduate theological school of the United Church of Canada, established by Provincial Charter, has been affiliated with the University since 1908 and currently is working on a broadly ecumenical basis, integrating faith and theology with practice and experience.

Courses Offered for University Credit
By an arrangement with the University, courses in Biblical Literature, Christian Theology and Faith Development taught in St. Stephen's College are open to students of the University for credit towards the Bachelor of Arts degree, or as Arts options open to students in other faculties. For information about courses offered, see §44.10.2 of this Calendar.

Non-Credit
The College provides a variety of short-term, non-credit courses of a professional and interdisciplinary nature for professional church workers and laity, and many of these courses are open to members of the University. Laypersons desiring a more structured program of study may apply for admission to the non-residency program leading to certification in theological studies (CTh).

Degree Courses
The College offers graduate theological degrees: a professional Doctor of Ministry (DMin), an academic Master's Degree (MTh), Preparation in Diaconal Ministry (Diploma BTh, MTS), and a Master of Theological Studies (MTS) for laypersons. Enquiries may be directed to the office: 439-7311.

246.1.2 St Joseph's College

Academic Staff of the College

President
RJ Barringer, csb, MA, DPhil

Dean
PJM Swan, csb, MA, PhD

Librarian
PJ Sheedy, BA, MLS

Academic Adviser
RA Pendergast, csb, PhD, Professor Emeritus of Economics

Philosophy

Associate Professors
JA Buijs, MA, PhD, Coordinator
BD Inglis, csb, STB, ARCT, MA, PhD

Theology

Professors
JJF Firth, csb, MA, MSD
JT Forestell, csb, BA, STL, SSD

Visiting Professor
L Quintos, rc, MA, PhD

Associate Professor
TG Dailey, BA, STD

Assistant Professors
WS Canning, csb, STB, MA, EdD, (on leave)
PJP Flaman, BA, STD, Coordinator
JJ O'Callaghan, MA, PhD
RB Sheard, MA, BEd, PhD
D Vervoort, ndl, MA

Lecturers
U Duchesneau, omi, MEd, STL
LG Foley, BRE, BTh, MA, PhD
A Hodowansky, ssmi, BEd, LES, MA
GE MacKinnon, BEd, BRE, MTh
RM McKeon, BS, MEd, MTh
LJ Zdunich, BEd, MA, MS, PhD

Director, Development and Alumni Affairs
AS Knowler, BCom, CSP

Director of Residence
J Cain, BEd

General Information
St Joseph's College is established under the authority of the Roman Catholic Church, and directed by the Congregation of other clerics, religious, and lay persons. It was affiliated with the University by an agreement with the Board of Governors on April 28, 1926.

Courses Offered for University Credit

Christian Theology
For courses taught by St Joseph's College in Christian Theology see §44.10 (Faculty of Arts) of this Calendar.

Philosophy
For courses taught by St Joseph's College in Philosophy see §44.29.4 of this Calendar.

246.2 Off-Campus Colleges

Four private colleges have formal affiliation agreements with the University of Alberta, under which certain courses offered by the colleges will be accepted by the University for transfer credit. These colleges are: Canadian Union College, College Heights; Concordia College, Edmonton; The King's College, Edmonton; and North American Baptist College, Edmonton.

246.3 Public Colleges and Technical Institutes

Formal affiliation agreements do not exist between the University and the public colleges or technical institutes in the Province. However, arrangements are in place which allow for the transfer of students from these post-secondary institutions to the University of Alberta (See §13.9 of this Calendar).

247 Associated Institutions and Agencies

247.1 Northern Health Services Program

See §121.3.2 of this Calendar.

247.2 Provincial Laboratory of Public Health for Northern Alberta

Chair, Department of Medical Microbiology and Infectious Diseases
DLJ Tyrrell, MD, PhD, FRCP

Director
WL Albritton, MD, PhD, FRCP

Associate Director
RG Marusyk, MSc, Fil dr, RM(CCM)

Academic Division Heads
P Kibsey, MD, FRCP
K Kowalewska-Grochowska, MD, FRCP
A Sekhon, PhD, RM(CCM)

Consultants
EA Fanning, MD, FRCP
D Kunimoto, MD, FRCP
L Miedzinski, MD, FRCP
M Peppler, D Phil
JK Preiksaitis, MD, FRCP
B Romanowski, MD, FRCP
DE Taylor, PhD
WM Wenman, MD, FRCP
D Zoutman, MD

Administrative Professional Officers
RDO Devine, FIMLS, RM(CCM)
AT Kerr
ES Prasad, BSc, DTM&H, RM(CCM)

The Provincial Laboratory of Public Health for Northern Alberta is administered by the University of Alberta.

247.3 Alberta Research Council

President
CW Bowman, PhD

Vice-President, Development and Planning
DJ Currie, PhD

Corporate Secretary and Director of Public Relations
DM Hollands

Calgary Corporate Office
RJ Hipkin

Vice-President, Operations
R Green, PhD

Director, Information Systems
W Neilson, MSc

Director, Human Resources
DM Peckman, BSc

Director, Financial Services
M Legg, CA

Director, Administrative Services
SM Gee, BSc, MLS

Manager, Facilities Planning and Engineering
EJ Parranto

Manager, Occupational Health and Safety
J Koehler, RN, COHN

Vice-President, Advanced Technologies
BL Barge, PhD

Head, Biotechnology
D Cox

Head, Advanced Computing and Engineering
E Chang, PhD

Head, Electronics Test Centre
BJ Young, BSc

Head, Manufacturing Technologies
TR Heidrick, PhD

Vice-President, Natural Resources
R Fessenden, PhD

Head, Coal and Hydorcarbon Processing
A Hardin, PhD

Head, Forestry
P Williams, MSc

Head, Geological Survey
JA Boon, PhD

Head, Oil Sands and Hydrocarbon Recovery
MP duPlesis, PhD

Head, Environmental Research and Engineering
S Moran, PhD

The Alberta Research Council, founded in 1921, is a Crown corporation of more than 600 employees, with a stated mission to advance the economy of the province through the promotion of technology development; performing applied research; and providing expert advice, technical information and scientific infrastructure. Research and/or testing programs are conducted in oil sands and hydrocarbon recovery, coal and hydrocarbon processing, resource technologies (including geological survey, environmental research and engineering, and forestry), advanced technologies (including advanced computing and engineering and advanced manufacturing), biotechnology, electronics testing and automation technologies using artificial intelligence and expert systems. Joint research venture programs are carried out with industrial partners.

Dr. Henry Marshall Tory, the first President of the University of Alberta, was instrumental in the establishment of the Research Council; since then a close association has been maintained between the two organizations. The Universities of Alberta, Calgary, and Lethbridge are represented on the Research Council's Board of Directors.

Two corporate offices are located in Edmonton and Calgary. The main laboratories are located in the Edmonton Research Park, 250 Karl Clark Road, Edmonton, with other offices and/or laboratories in Calgary, Devon, Nisku, Red Deer, and Lethbridge. Further information is available from the Corporate Secretary, tel. 450-5224 or mailing address, P.O. Box 8330, Postal Station F, Edmonton, Alberta T6H 5X2 (FAX: 450-5198).

247.4 The University of Alberta Hospitals

Members of the University Hospitals Board
RJ Harris, CA (Chair)
JD Fischer, MD, FRCS, FACS
P Davenport, PhD (President of the University)
DR Wilson, MD, FRCP(C), (Dean, Faculty of Medicine)
DR Brandt, BBA
HB Martin, QC
HL Morrison, BSc (Vice Chair)
GE Pearson, BCom, FCA
DM Ritchie, BA
H Whitaker, RN
NL Witten, QC
HG Young, MSc

President and Secretary, University Hospitals Board, University of Alberta Hospitals
DP Schurman, BCom, MHSA

The University of Alberta Hospital was founded in 1906 as the Strathcona Hospital. The University Hospitals Board administers the Walter C. Mackenzie Health Sciences Centre, the Aberhart Centre, the Mewburn Veterans Centre, the Outpatient Residence, Educational Development Centre and the Patient Support Centre located in Millwoods. The President of the University and the Dean of the Faculty of Medicine are statutory members of this corporate board. The University of Alberta Hospitals has approximately 1355 in-patient beds and many ambulatory care programs, including a 125-bed out-patient residence. Students in the Faculties of Medicine, Dentistry, Nursing, Pharmacy and other health sciences faculties receive instruction there.

247.5 The Western Board of Music

The Western Board of Music was founded in 1935 in order to conduct examinations of a high standard in music. Associated with the Board are universities in Alberta, Manitoba, and Saskatchewan. The central office is at the University of Alberta and it is funded by the prairie universities, and from revenue derived from examination fees. The Board awards the diplomas of Associate in Music (AMus) and Licentiate in Music (LMus) in its examinations. Theoretical and practical examinations are held in January, February, May, and June of each year. Further details, including information about prizes and awards, are found in the official announcements of the Board, obtainable by writing to The Western Board of Music, the University of Alberta.

University Staff

251 Continuing Academic Staff

Note: The following is a list of continuing academic staff in 1990-91. Appointments taking effect in 1991-92 have not been included. In addition, the ranks shown are 1990-91 ranks; any promotions which take effect in 1991-92 have not been included. The two years shown in parentheses at the end of each entry are: first year – the year of first appointment to the University; second year – the year of attainment of the current rank. Continuing academic staff are those employees whose contracts of appointment are under one of the Board-AASUA Agreements, viz. Faculty, Administrative and Professional Officer, Librarian, or Faculty Service Officer.

Aaron, Stephen L., BSc MD (Alberta), LMCC, FRCP(C), Assistant Professor of Medicine (1989, 1989).

Abbott, Harvey Leslie, BA (Memorial), MSc PhD (Alberta), Professor of Mathematics (1967, 1977).

Abou Rizk, Seman M, BS MS (Georgia Institute of Technology), PhD (Purdue), Assistant Professor of Civil Engineering (1990, 1990).

Abu-Laban, Baha R, BA MA (Beirut), PhD (Washington), Professor of Sociology (Research) (1961, 1971).

Abu-Laban, Sharon McIrvin, BA (Washington), MA PhD (Alberta), Associate Professor of Sociology (1975, 1979).

Acheson, Ann L, BA (Oberlin), PhD (Pittsburgh), Assistant Professor of Anatomy and Cell Biology (1988, 1988)

Adam, Arnold, Dip.(Chemical Research Technology)(NAIT), BSc (Alberta), Administrative Professional Officer in Chemistry (1982, 1982).

Adamowicz, Wiktor L, BSc MSc (Alberta), PhD (Minnesota), Associate Professor of Rural Economy (1983, 1989).

Adams, William Sanderson, BSc MSc (Alberta), Associate Professor of Computing Science (1962, 1966).

Addicott, John F, AB (California), MS PhD (Michigan), Professor of Zoology (1973, 1988).

Addison, William R, BSc (Regina), PhD (British Columbia), Assistant Professor of Genetics (1986, 1986).

Adler, John G, BSc MSc (British Columbia), PhD (Alberta), Professor of Physics (1967, 1972).

Affolder, Gregory W, BCom (Alberta), Administrative Professional Officer in the Office of the Registrar (1990, 1990).

Affolder, Wallace E, Associate Director in University Computing Systems (1969, 1971).

Aherne, Francis X, BS, MS (Dublin), PhD (Iowa), Professor of Animal Science (1972, 1979).

Ahmed, Asad, BSc MSc PhD (Aligarh), PhD (Yale), Professor of Genetics (1967, 1977).

Aitken, Leslie M, Teaching Cert, BA BLS,MLIS (Alberta), Professional Librarian (1980, 1988).

Akabutu, John J, MD (Dalhousie), Professor of Paediatrics, (1972, 1981).

Albritton, William L., BSc (Alabama), PhD (Tennessee), MD (Med Coll of Alabama), Professor of Medical Microbiology & Infectious Diseases and Director, Provincial Laboratory of Public Health (1990, 1990).

Alderman, Richard B, BPE MPE (British Columbia), EdD (California), Professor of Physical Education and Sport Studies (1965, 1974).

Algeo, James E, BA (Sacramento State College), MA PhD (Wisconsin), Associate Professor of Romance Languages (1975, 1975).

Al-Hussaini, Ata N, BSc (Iraq), MSc (Purdue), PhD (Illinois), Professor of Statistics and Applied Probability (1968, 1983).

Allaire, Gratien, BA Lic Ens Sec, Lic es Lettres (Laval), MA PhD (Concordia), Professeur Agrégé, Faculté Saint-Jean (1979, 1984).

Allan, Wilfred H, BSc (George Williams), MEd (Boston), Director, International Centre (1983, 1987).

Allegretto, Walter, BASc PhD (British Columbia), Professor and Associate Chair of Mathematics (1970, 1982).

Allen, Marion N, BN (New Brunswick), MScN (Western Ontario), PhD (Case Western Reserve), Associate Professor of Nursing (1985, 1985).

Allen, Peter S, BSc PhD (Leeds), Professor and Chair of Applied Sciences in Medicine (1983,1983).

Allen, Theresa M, RT (Ottawa General Hosp.), BSc (Ottawa), PhD (Dalhousie), Professor of Pharmacology (1977, 1988).

Allison, Bruce N, BSc (Alberta), PhD (Yale), Professor of Mathematics (1971, 1988).

Allison, Scott, BA BEd (Alberta), MA (Middlebury), MLS (Maryland), Professional Librarian (1969, 1969).

Almon, Bert L, BA (Texas), MA PhD (New Mexico), Professor of English (1968, 1983).

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Wikeley, J Keith, BA (London), ALA FIL, MA (Alberta), Professional Librarian (1969, 1971).

Wilberg, Robert Bernard, BEd (Alberta), MS PhD (Oregon), Professor of Physical Education and Sport Studies (1966, 1975).

Wilcocks, Robert WF, BA (Hull), PhD (Khartoum), Professor of Romance Languages (1969, 1976).

Wilde, Warren D, BEd (Alberta), MA PhD (Michigan State), Professor of Elementary Education (1969, 1977).

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Williams, Donald E, BSc (Saskatchewan), Assistant Dean of Science (1975, 1988).
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Williams, Jeremy S, LLB LLM (Sheffield), BCL (Oxford), Professor of Law (1976, 1976).
Williams, Michael C, BS MS PhD (Wisconsin), Professor of Chemical Engineering (1990, 1990).
Williams, Richard B, BMus (Alberta), Administrative Professional Officer in Music (1982, 1985).
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Wilson, C Roderick, BA (Seattle Pacific), MA PhD (Colorado), Associate Professor of Anthropology (1969, 1974).
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Wilson, Donna M, BScN (Alberta), MScN (Texas), Assistant Professor of Nursing (1990, 1990).
Wilson, Douglas R, MD (Toronto), FRCP(C), Professor and Dean of Medicine (1984, 1984).
Wilson, Frank B, BS (Bowling Green), PhD (Northwestern), Professor of Speech Pathology and Audiology (1974, 1974).
Wilson, Harold E, BA PhD (British Columbia), Professor of History (1977, 1988).
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Boorman, Joyce L, MA (Utah), PhD (Alberta), Professor Emeritus of Physical Education and Sport Studies (1966, 1988).
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Brown, Gordon D, MD (Alberta), FRCP(C), Professor Emeritus of Medicine (1986, 1986).

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Cherry, Richard R, BSc MD CM (McGill) LMCC, Professor Emeritus of Family Practice (1967, 1985).

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Cook, Fred D, BSA MSA (British Columbia), PhD (Edinburgh), Professor Emeritus of Soil Science (1964, 1983).

Corns, William G, BSc MSc (Alberta), PhD (Toronto), Professor Emeritus of Plant science (1946, 1979).

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Fredeen, H, BSA (Saskatchewan), MSc (Alberta), PhD (Iowa State College), Adjunct Professor of Animal Science (1989, 1989).
Girczyc, Emil F, BSc (Alberta), MEng PhD (Carleton), Adjunct Professor of Electrical Engineering (1990,1990).
Grace, Michael G, BSc BEd (Alberta), AM PhD (Harvard), Adjunct Professor of Surgery (1980, 1980).
Grimsrud, Karen M, MD (Alberta), MHSc (Toronto), Adjunct Professor of Health Services Administration and Community Medicine (1990, 1990).
Grover, Wayne, BEng (Carleton), MSc (Essex), PhD (Alberta) Adjunct Professor of Electrical Engineering (1987, 1987).
Gunter, William D, BSc MSc (New Brunswick), PhD (Johns Hopkins), Adjunct Professor of Geology (1986, 1986).
Gurjar, Suresh S, MEng (Nova Scotia Technical College), MBA (Alberta), Adjunct Professor of Civil Engineering (1990, 1990).
Harrison, D Jed, BSc (British Columbia), PhD (Mass Inst Tech), Adjunct Professor of Electrical Engineering (1988, 1988).
Hatzinikolas, Michael, BEd (Rhodes Teachers College), BSc MSc (Manitoba), PhD (Alberta), Associate Professor of Civil Engineering (1984, 1984).
Heimann, Robert B, BSc MSc PhD (Berlin), Adjunct Professor of Mining, Metallurgical and Petroleum Engineering (1988, 1988).
Henry, GHR, BSc MES (Dalhousie), PhD (Toronto), Adjunct Professor of Botany (1989, 1989).
Higginbotham, Kenneth O, BSc MS (Utah State), PhD (Duke), Adjunct Professor of Forest Science (1988, 1988).
Hiratsuka, Yasuyuki, BA (Intl Christian), MSc (Hokkaido), PhD (Purdue) Adjunct Professor of Forest Science and Plant Science (1981, 1981).
Holroyd, Geoffrey L, BA (Western Ontario), MSc PhD (Toronto), Adjunct Associate Professor of Forest Science (1986, 1986).
Hooper, H Richard, BSc (Carleton), MSc PhD (Alberta), Adjunct Professor of Physics (1983, 1983).
Hrudey, Steven E, BSc (Alberta), MSc PhD (London), Adjunct Professor of Civil Engineering (1989, 1989).
Hundleby, Glenn D, BEd (British Columbia), MA (Victoria), PhD (Alberta), Adjunct Professor of Educational Psychology (1989, 1989).
Isaacs, EE, BSc (McGill), PhD (Alberta), Adjunct Professor of Chemical Engineering (1989, 1989).
Ives, Elizabeth J, MBChB (Glasgow), DPH (London Sch of Hyg & Trop Med), FCCMG (C), FRCP (C), MS (Michigan), Adjunct Professor of Genetics (1985, 1985).
Ives, John W, BA (Saskatchewan), MA (Alberta), PhD (Wisconsin), Adjunct Professor of Anthropology (1988, 1988).
Janes, Robert R, BA (Lawrence), PhD (Calgary), Adjunct Professor of Anthropology (1988, 1988).
Jones, Alan, BSc PhD (Liverpool), Adjunct Professor of Microbiology (1990, 1990).
Kerr, Gordon M, BComm (Saskatchewan), DipHospAdm (Toronto), Adjunct Professor of Health Services Administration and Community Medicine (1990, 1990).
Koch, Maria, Physician MD (Buenos Aires), DipHSA (Alberta), Adjunct Professor of Health Services Administration and Community Medicine (1986, 1986).
Kotani, Nancy N, BA MSW (Toronto), Adjunct Professor of Health Services Administration and Community Medicine (1990, 1990).
Lamble, G Wayne, BSc MSc (Alberta), PhD (Texas A & M), Adjunct Professor of Rural Economy (1968, 1988).
Legg, Thomas H, BASc (British Columbia), MS PhD (McGill), Adjunct Professor of Electrical Engineering (1990, 1990).
Lin, CC Jim, BSc (Nat'l Taiwan), MSc PhD (Manitoba), Adjunct Professor of Genetics (1986, 1986).
Lindwall, C Wayne, BSc MSc (Alberta) PhD (Iowa State), Adjunct Professor of Agricultural Engineering (1985, 1985).
Lupin, Allan, MBBS (London), LRCP MRCS (England), FRCS(C), FACS, Adjunct Professor of Electrical Engineering (1989, 1989).
MacGregor, Donald A, BA Clin&IndPsych (Alberta), DipHospAdm (Toronto), Adjunct Professor of Health Services Administration and Community Medicine (1990, 1990).
Malhotra, Sudarshan, BSc MSc (Punjab), PhD (Punjab, Oxford), Adjunct Professor of Pathology (1983, 1983).
Marples, David R, BA (London), MA (Alberta), PhD (Sheffield), Adjunct Professor of Slavic and East European Studies (1987, 1987).
Marshall, J Dru, BA MSc PhD (Alberta), Adjunct Professor of Health Services Administration and Community Medicine (1990, 1990).
McCormack, Patricia, BA MA PhD (Alberta), Ajunct Assistant Professor of Clothing and Textiles (1990, 1990).
McGillivary, W Bruce, BSc (Toronto), MA MPhil PhD (Kansas), Adjunct Professor of Zoology (1988, 1988).
Merchant, Fahar, BSc (Aston), MSc (Birmingham), PhD (Western Ontario), Adjunct Professor of Chemical Engineering (1990, 1990).
Millar, F David, BA (Dalhousie), MA (Carleton), PhD (York), MLIS (Dalhousie), Adjunct Professor of History (1989, 1989).
Morgantini, Luigi, Dottoratio in Bio Sci (Rome), MSc PhD (Alberta), Adjunct Professor of Forest Science (1988, 1988).
Morrison, Frederick J, PhD (Harvard), Adjunct Professor of Psychology (1989, 1989).
Morse, Jan, BS MS (Pennsylvania State), MA PhD (Utah), Adjunct Professor of Family Studies (1989, 1989).
Murdock, Alan I, BSc MD CM (McGill), PhD (London), FRCP(C), Adjunct Professor of Health Services Administration and Community Medicine (1990, 1990).
Murray, Eloise C, BSc (Mount Allison), MSc PhD (Pennsylvania State), Adjunct Professor of Rural Economy (1990, 1990).
Nagarajan, Raj P, BS MS (India), PhD (Kansas), Adjunct Professor of Plant Science (1988, 1988).
Nasr-El-Din, Hisham A, BSc MSc (Cairo), PhD (Saskatchewan), Adjunct Professor of Chemical Engineering (1990, 1990).
Navratil, S, PhD (Czechoslovakia), Adjunct Professor of Forest Science (1985, 1985).
Naylor, Bruce G, BSc (Saskatchewan), PhD (Alberta), Adjunct Professor of Geology and Zoology (1983, 1983).
Newman, Kenneth E, BSc (Durham), PhD (Newcastle-upon-Tyne), Adjunct Professor of Chemistry (1988, 1988).
Paterson, Malcolm C, BSc (Royal Military College), MSc (Queen's), PhD (Tennessee), Adjunct Professor of Genetics (1985, 1985).
Percy, Michael B, BA (Victoria), MA PhD (Queen's), Adjunct Professor of Rural Economy (1987, 1987).
Peterson, Arthur E, BASc (British Columbia), MS (Cornell), Adjunct Professor of Electrical Engineering (1990, 1990).
Pharis, Richard P, BS (Washington), MS PhD (Duke), Adjunct Professor of Forest Science (1984, 1984).
Priestly, Tom, BA MA (Cambridge), PhD (Simon Fraser), Adjunct Professor of Linguistics (1989, 1989).
Pugh, Robert W, BASc (British Columbia) Adjunct Professor of Mining, Metallurgical and Petroleum Engineering (1988, 1988).
Raso, V James, BASc MASc (Waterloo), Adjunct Professor of Electrical Engineering (1988, 1988).
Read, John G, DipHos Admin (Toronto), MD (Western Ontario), Adjunct Professor of Health Services Administration and Community Medicine (1986, 1986).
Reimer, C Neil, Adjunct Professor of Health Services Administration and Community Medicine (1987, 1987).
Robins, Morris J, BA (Utah), PhD (Arizona State), Adjunct Professor of Medical Microbiology and Infectious Diseases (1988, 1988).
Rochet, Bernard L, Cert d'Etudes Litt Lic es Lettres (Bordeaux), PhD (Alberta), Adjunct Professor of Linguistics (1989, 1989).
Rogers, Robert E, BSc MSc (Calgary), MS PhD (Rochester), Adjunct Professor of Health Services Administration and Community Medicine (1990, 1990).
Rutter, Laura M, BS (Colorado State), MS (Arizona), PhD (Texas A & M), Adjunct Professor of Animal Science (1988, 1988).
Sadasivaiah, Raghavadevanahalli, BSc (Mysore), MSc (Karnatak), PhD (Indian Agric Res Inst), Adjunct Professor of Genetics (1984, 1984).
Schaefer, AL, BPE (Alberta), BSc (Alberta), MSc (Alberta), PhD (UBC), Adjunct Professor of Animal Science (1989, 1989).
Schubert, Lenhart K, BSc (Toronto), MSc (Toronto), PhD (Toronto), Adjunct Professor of Computing Science (1990, 1990).
Schwartz, Franklin W, BSc (Western Ontario), MSc (Manitoba), PhD (Illinois), Adjunct Professor of Geology (1989, 1989).
Scotter, George W, BSc MSc PhD (Utah State), Adjunct Professor of Forest Science (1986, 1986).
Selucky, Milan L, PhD (Masaryk), Adjunct Professor of Chemical Engineering (1986, 1986).
Sigler, Lynne, BSc (Alberta), RT (Can Soc of Lab Tech), MSc (Alberta), Adjunct Professor of Medical Microbiology and Infectious Diseases (1987, 1987).
Sloboda, Ronald S, BSc PhD (Alberta), Adjunct Professor of Physics (1990, 1990).
Snyder, Joan M, BSc (Jacksonville), MSc PhD (Emory), Adjunct Professor of Forest Science (1988, 1988).
Stepney, Philip HR, BSc (Alberta), MSc PhD (Toronto), Adjunct Professor of Forest Science (1988, 1988).
Stockey, Ruth A, BSc (Illinois), MSc (Ohio), PhD (Ohio State), Adjunct Professor of Geology (1987, 1987).
Storch, Janet L, RN BScN MHSA PhD (Alberta), Adjunct Professor of Health Services Administration and Community Medicine (1990, 1990).
Swanson, Robert H, BS MSc (Colorado State), PhD (Alberta), Adjunct Associate Professor of Forest Science (1983, 1983).
Sysyn, F, BA (Princeton), MA (London), PhD (Harvard), Adjunct Associate Professor of History (1990,1990).
Szalay, Aladar A, MSc (Martin Luther), PhD (Inst of Biochem & Plant Phys), Adjunct Professor of Genetics (1987, 1987).
Taylor, Jack D, BSc MSc (Alberta), PhD (Saskatchewan), Adjunct Professor of Pharmacology (1990, 1990).
Thompson, Bradley G, BSc (Alberta), PhD (Western Ontario), Adjunct Professor of Microbiology and Chemical Engineering (1987, 1987).
Thorpe, Trevor A, BSc (Allahabad Inst), MSc PhD (California), Adjunct Professor of Forest Science (1986, 1986).
Toma, Petre, BSc MSc PhD (Polytech Inst, Bucharest), Adjunct Professor of Mechanical Engineering (1988, 1988).
Tremaine, Peter R, BSc (Waterloo), PhD (Alberta), Adjunct Professor of Chemical Engineering (1989, 1989).
Turchenek, Larry W, BSA MSc (Saskatchewan), PhD (Adelaide), Adjunct Professor of Soil Science (1987, 1987).
Van Aerde, Johny EE, BS MD (Leuven), Adjunct Professor of Animal Science (1988, 1988).
Volney, W Jan A, BScF MA (New Brunswick), MSF (Yale), PhD (SUNY), Adjunct Professor of Entomology (1989, 1989).
Walker, Martin A, BS (Carleton), PhD (London), Adjunct Professor of Mathematics (1986, 1986).
Wein, Ross W, BSa MSc (Guelph), PhD (Utah State), Adjunct Professor of Botany (1987, 1987).
Wenman, Wanda M, MD (Calgary), Adjunct Professor of Microbiology (1983, 1983).
White, William A, BSc (Brigham Young), MA (Regina), PhD (Simon Fraser), Adjunct Professor of Rural Economy (1990, 1990).
Wilbush, Joel, MB ChB (Sheffield), D Obst RCOG MRCOG (London), Dip in Ethnology, DPhil (Oxford), Adjunct Professor of Anthropology (1988, 1988).
Wishart, William D, BSc MSc (Alberta), Adjunct Professor of Zoology (1988, 1988).
Zoltai, Stephen C, BScF (Toronto), Adjunct Professor of Geography (1990, 1990).
Zupancic, John, BASc (Toronto), Adjunct Professor of Electrical Engineering (1987, 1987).

254 Honorary Degree Recipients

1908

Fall (First Convocation)

Bulyea, The Hon George HV (Lieutenant-Governor of Alberta), LLD
Rutherford, The Hon Alexander Cameron (Premier of Alberta) (Third Chancellor of the University), LLD
Sifton, Arthur L, DCL

1909

Fall

Lord Strathcona, Donald Alexander Smith (Baron), LLD

1915

Spring

Ferrier, Walter Frederick, DSc

Special Convocation (October)
Brett, The Hon Robert George, LLD
Dyde, Rev Samuel Walters, LLD
Gray, Rt Rev Henry Allen, LLD
Harvey, The Hon Chief Justice Horace, LLD
Legal, Most Rev Emile Joseph, LLD
McQueen, Rev David George, LLD
Muir, James, LLD
Murray, Walter Charles, LLD
Riddell, Rev John Henry, LLD
Stuart, The Hon Justice Charles Allan (First Chancellor of the University), LLD
Westbrook, Frank Fairchild, LLD

1916

Spring
Cruikshank, Brig-Gen Ernest Alexander, LLD
Maclean, James Alexander, LLD

1917

Special Convocation (November)
Cavendish, Victor Christian William (Ninth Duke of Devonshire), LLD

1919

Special Convocation (September)
HRH Edward Albert Christian George Andrew Patrick David of Windsor (Prince of Wales), LLD

1921

Spring
Aikins, Sir James Albert Manning, LLD

1922

Spring
Mewburn, Frank Hamilton, LLD
O'Leary, Most Rev Henry Joseph, LLD

Special Convocation (September)
Byng, Gen Julian Hedworth George (Lord Byng of Vimy), LLD

Special Convocation (October)
Patterson, Frederic William, LLD

1924

Spring
Barford, Vernon West, MA
Marker, Christian Peter (Knight of Banebrog), LLD
Scott, David Lynch, LLD

1925

Spring
Haultain, The Hon Sir Frederick William Gordon, LLD

1927

Special Convocation (April)
Freeman-Thomas, Freeman (Earl of Willingdon), LLD

Spring
Beck, The Hon Nicolas Dubois (Second Chancellor of the University), LLD
Egbert, The Hon William (Lieutenant-Governor of Alberta), LLD

1928

Spring
Brownlee, The Hon John Edward (Premier of Alberta), LLD
Tory, Henry Marshall (First President of the University), LLD

Special Convocation (October)
Bennett, The Hon Richard Bedford, LLD

1929

Spring
Camsell, Charles, LLD
Wood, Henry Wise, LLD

1930

Spring
Blaylock, Selwyn G, LLD
Bown, John CF, LLD
Fairfield, William Harmen, LLD
Lehmann, Adolf Ludwig Ferdinand, LLD
Ross, John Thomas, LLD

1931

Spring
Oliver, The Hon Frank, LLD

1932

Spring
Walsh, William Legh, LLD

Special Convocation (September)
Ponsonby, Vere Brabazon (Ninth Earl of Bessborough), LLD

1933

Spring
Alexander, William Hardy, LLD
Broadus, Edmund Kemper, LLD
Kerr, William Alexander Robb (Third President of the University), LLD
MacEachran, John Malcolm, LLD

1934

Spring
Dafoe, John Wesley, LLD

1935

Spring
Cody, Henry John, LLD
Parlby, The Hon Mary Irene, LLD
Simmons, The Hon Chief Justice William Charles, LLD

1936

Spring
Falconer, Sir Robert Alexander, LLD
Tuttle, The Rev Aubrey Stephen, LLD

Special Convocation (June)
Villeneuve, His Eminence Cardinal Jean-Marie Rodrigue, LLD

1937

Spring
Kerby, George William, LLD
Fox, William Sherwood, LLD

1938

Spring
Beatty, Sir Edward Wentworth, LLD

1939

Spring
Bowen, The Hon John Campbell (Lieutenant-Governor of Alberta), LLD
Brockington, Leonard Walter, LLD
Mitchell, The Hon Chief Justice Charles Richmond, LLD

1940

Spring
Woods, The Hon Lt Col James Hossack, LLD

1943

Special Convocation (September)
His Excellency, The Rt Hon Earl of Athlone (Governor-General of Canada), LLD

1946

Special Convocation (January)
Albright, William Donald, LLD
Rankin, Allan Coats, LLD

Spring
Ford, The Hon Justice Frank (Fourth Chancellor of the University), LLD
McNally, George Frederick (Fifth Chancellor of the University), LLD

Fall
Collip, John Bertram, LLD
Procter, Katherine Allison, LLD

1947

Spring
Howson, The Hon Chief Justice William Robinson, LLD
Osborne, Frederick Ernest, LLD

Fall
Barnett, John Walker, LLD (posthumously granted)
Buchanan, Frank Gordon, LLD

1948

Spring
Manning, The Hon Ernest Charles (Premier of Alberta), LLD
Parlee, The Hon Justice Harold Hayward, LLD

Fall
Archer, Albert Ernest, LLD
MacKinnon, The Hon James Angus, LLD

1949

Spring
Buchanan, The Hon William Asbury, LLD
Vandry, Monsignor Ferdinand, LLD
Thomson, The Rev James Sutherland, LLD

Fall
Fowler, James, LLD
Thomson, Leonard Baden, LLD
Watt, Arthur Balmer, LLD

1950

Spring
Gruening, The Hon Ernest, LLD
Newton, Robert (Fourth President of the University), LLD
Clay, John William, LLD
Charlesworth, Lionel Clare, LLD

Special Convocation (October)
MacKenzie, Norman Archibald MacRae, LLD
Nicholson, The Very Rev Patrick Joseph, LLD

Fall
Cairns, Andrew, LLD
Fisher, Olive Margaret, LLD

1951

Spring
Stanley, George Douglas, LLD
Wallace, Robert Charles (Second President of the University), LLD
Winspear, Francis George, LLD

Fall
Roe, Frank Gilbert, LLD
Thurber, Lindsay Ambrose, LLD

1952

Spring
Bowlen, The Hon John James (Lieutenant-Governor of Alberta), LLD
Walker, Arthur Earl, LLD

Special Convocation (October)
Noble, Charles Sherwood, LLD

Fall
Milner, Horatio Ray, LLD
O'Connor, The Hon Chief Justice George Bligh, LLD

1953

Spring
Calhoun, Alexander, LLD
Ford, The Hon Chief Justice Clinton James, LLD
Hedley, Robert Wesley, LLD

Fall
Gaherty, Geoffrey Abbott, LLD
Jewitt, William Gladstone, LLD
Morrison, Ibrahim Follansbee, LLD
Spratt, Joseph Grant, LLD

1954

Spring
Campbell, Peter McGregor, LLD
Chittick, Rae MacIntyre, LLD
Dower, John David, LLD

Fall
Hanna, William Fielding, LLD
Longman, Oliver Stanley, LLD
Prior, Kenneth Harold, LLD
Prior, Pearl L, LLD
Wright, Howard Phin, LLD

1955

Spring
Cairns, Laurence Yeomans (Seventh Chancellor of the University), LLD
O'Brien, Lewis James, LLD
Steer, George Hobson, LLD

Fall
Collicutt, Frank H, LLD
Edmunds, The Rev W Everard, LLD
Levern, Father Jean-Louis, LLD

1956

Special Convocation (April)
Priestly, James Taggart, LLD

Spring
Halton, Matthew Henry, LLD
Stapells, Frederick, LLD

Fall
Laurie, John Lee, LLD
McCalla, William Copeland, LLD

1957

Spring
Davies, Robertson, LLD
Stewart, John Smith, LLD

Special Convocation (August)
Coxeter, Harold Scott MacDonald, LLD
Lussier, Irenee, LLD
Wigner, Eugene Paul, LLD

Fall
Harvie, Eric Lafferty, LLD
MacPhee, Earle Douglas, LLD
Thompson, Walter Palmer, LLD

1958

Spring
Patterson, Gordon Neil, LLD
Reynolds, Lloyd George, LLD
Woolley, Dilworth Wayne, LLD

Special Convocation (September)
Hashmi, Bashir A, LLD
Mountford, Sir James Frederick, LLD
Phillips, William Eric, LLD

Special Convocation (October) (50th Jubilee)
Burgess, Cecil Scott, LLD
Fairley, Barker, LLD
Gordon, Robert Kay, LLD
James, Frank Cyril, LLD
Russell, Loris Shano, LLD
Smith, Sidney Earle, LLD
Wershof, Max Hirsch, LLD

Fall
Ferguson, George Victor, LLD
MacInnes, Charles Malcolm, LLD
Macleod, John Edward Annand, LLD
Mitchell, Betty, LLD
Scarlett, Earle Parkhill (Sixth Chancellor of the University), LLD

1959

Special Convocation (April)
Flemington, Rev William Thomas Ross, LLD
Saunderson, Hugh Hamilton, LLD

Spring
Galbraith, Francis Philip (Eighth Chancellor of the University), LLD
Macleod, Charles Malcolm (Chair, Board of Governors of the University), LLD
Roper, Elmer Ernest, LLD
Stewart, Andrew (Fifth President of the University), LLD

Fall
Dinning, Robert James, LLD
MacCharles, Donald Neil, LLD

1960

Spring
Field, Sem Wissler, LLD
MacDonald, The Most Rev John Hugh, LLD
Sonet, Edouard, LLD
Soper, Joseph Dewey, LLD

Special Convocation (Medical/Dental - June)
Farquharson, Ray Fletcher, LLD

Fall (Calgary)
Paterson, Gilbert Currie, LLD
Phillips, Walter Joseph, LLD
Sternberg, Charles Mortram, LLD
Young, James William, LLD

1961

Spring
Brown, Harrison Scott, LLD
Herzberg, Gerhard, LLD
MacDonald, The Hon Justice Hugh John, LLD
Page, The Hon John Percy (Lieutenant-Governor of Alberta), LLD
Polya, George, LLD
Wees, Wilfred Rusk, LLD

Special Convocation (Medical/Dental - June)
Brown, Harry Knowlton, LLD
Hartroft, Walter Stanley, LLD

Fall (Calgary)
McKinnon, Ian Nicholson, LLD
McLaurin, The Hon Chief Justice Colin Campbell, LLD

1962

Spring
Smith, The Hon Chief Justice Sidney Bruce, LLD
Stewart, Freeman Kenneth, LLD

Special Convocation (Medical/Dental - May)
Cameron, George Donald West, LLD

Fall (Calgary)
Payne, Ben Iden, LLD
Seamans, Howard Loomis, LLD

1963

Spring
Corbett, Edward Annand, LLD
Ford, Charles Ross, LLD
LaZerte, Milton Ezra, LLD
Burton, Alan Chadburn, LLD

Special Convocation (September)
Douglas, Robert Gordon, LLD
Dubos, Rene Jules, LLD
Horsfall, Frank Lappin, LLD
Medawar, Peter Brian, LLD

Fall (Calgary)
Calvert, The Rt Rev George Reginald, LLD
MacKimmie, Ross Anderson, LLD
Sauder, Penrose Melvin, LLD

1964

Spring (Calgary)
Batchelor, Dudley Edward, LLD
Charyk, Joseph Vincent, LLD
Jackson, Margaret Isabel, LLD

Spring (Edmonton)
Kurimoto, Yuichi, LLD
Lyle, Guy Redvers, LLD
McCuaig, Hazel Rutherford, LLD
McArthur, Helen Griffith Wylie, LLD
MacIntosh, Frank Campbell, LLD

Fall
Froman, Darol Kenneth, LLD
Martland, The Hon Justice Ronald, LLD

1965

Spring (Calgary)
Egbert, Gladys McKelvie, LLD
Taylor, Malcolm Gordon, LLD

Spring (Edmonton)
Dyde, Henry Alexander, LLD
Miller, Frank Robert, LLD
Ronning, Chester Alvin, LLD
Anderson, John Ansel, LLD
MacFarlane, Joseph Arthur, LLD
Platt, Arnold William, LLD

Fall
Hennig, Rudolph, LLD
Herbert, Walter Bertram, LLD
Patrick, Mabel, LLD

1966

Spring
Burt, Alfred Leroy, LLD
MacEwan, The Hon John Walter Grant (Lieutenant-Governor of Alberta), LLD
Andrews, Catherine Brodie, LLD
Rice, George Richard Agar, LLD

Fall
Lang, William Albert, LLD
Le Saunier, Jenny Le Rouge, LLD
Pugh, Kenneth Aubrey, LLD

1967

Special Centennial Convocation (March)
Dickins, Clennell Haggerston, LLD
Leger, His Eminence Cardinal Paul Emile, LLD
McGibbon, Pauline Mills, LLD
Townes, Charles Hard, LLD

Spring
Heeney, Arnold Danford Patrick, LLD
Michener, His Excellency, The Rt Hon Daniel Roland (Governor-General of Canada), LLD
Gibson, Helen Beny, LLD
Barr, Murray Llewellyn, LLD
Matthews, Arnold Whitney, LLD

Fall
Jackson, Lady Robert (Miss Barbara Ward), LLD

1968

Special Diamond Jubilee Convocation (May)
Schneider, William George, LLD
His Excellency, U Thant (Secretary General of the United Nations), LLD
Trudeau, The Hon Pierre Elliott (Prime Minister of Canada), LLD

Spring
Burns, Lt Gen Eedson Louis Millard, LLD
Swift, William Herbert, LLD
Jackson, Robert William Brierley, LLD
Grant, Charles Henry, LLD
Hall, Cecil Edwin, LLD

Fall
Frolich, Herbert, LLD
Read, John Erskine, LLD

1969

Spring
Wood, Edgar Allardyce, LLD
Morton, Elizabeth Homer, LLD
Graham, George Roger Pringle, LLD
Bonneau, Louis-Philippe, LLD
Bruce, John, LLD

Fall
Dickson, Horatio Lovat, LLD
Mooney, Mary Bowlen, LLD
Ward-Perkins, John Bryan, LLD

Special Convocation (October)
Scott, John William, LLD

1970

Spring
Mannix, Frederick Charles, LLD
Thomson, Donald Walter, LLD
Parsons, Margaret Agnes, LLD
Campbell, Neil, LLD
Mitchell, Sir Harold (Baronet), LLD
Attrux, Laura Margaret, LLD
Cairns, Theodore LeSueur, LLD

Fall
Johns, Walter Hugh (Sixth President of the University), LLD
Sterling, John Ewart Wallace, LLD

1971

Spring
Cowan, Ian McTaggart, LLD
Went, Frits Warmolt, LLD
Jordan, The Most Rev Anthony, LLD
MacGregor, James Grierson, LLD
Stanley, George Francis Gillman, LLD
Parsons, Richard MacGregor, LLD
Shaner, Ralph Faust, LLD

Fall
McLuhan, Herbert Marshall, LLD
Miller, Carl Stinson, LLD

1972

Special Convocation (May)
Bowker, Wilbur Fee, LLD
The Rt Hon Lord Diplock of Wansford, LLD

Laskin, The Hon Justice Bora, LLD

Spring
Ignatieff, Alexis, LLD
Oeming, Albert Frederick Hans, LLD
Stewart, Winnifred Mary, LLD
Keeping, Ernest Sydney, LLD

Fall
Bradley, John Edward (Chair, Board of Governors of the University), LLD

1973

Spring
Strong, Maurice Frederick, LLD
Anderson, Doris Hilda, LLD
Priestley, Francis Ethelbert, DLitt
Strachan, John George, LLD

Fall
Hardy, William George, LLD

1974

Spring
Baker, Thomas Davidson, LLD
Morrow, The Hon Justice William George, LLD
Yorath, Dennis Kestell, LLD

Fall
Diefenbaker, The Hon John George (Prime Minister of Canada), LLD

1975

Spring
Ritchie, Marguerite Elizabeth, LLD
Murray, Monsignor Athol, LLD
Blair, Sidney Martin, LLD

Fall
Mitchell, William Ormand, DLitt

1976

Spring
Jenner, Frederick Thomas (Chair, Board of Governors of the University), LLD
Steinhauer, The Hon Ralph Garvin (Lieutenant-Governor of Alberta), LLD
Mackiw, Vladimir Nicolaus, DSc
Douglas, Thomas Clement, LLD

Fall
Jackson, Mary Percy, LLD

1977

Spring
O'Sullivan, Frank, LLD
MacNeil, Harold Alexander, LLD
Hellstedt, Leone McGregor, DSc

Fall
Hardy, Robert MacDonald, LLD

Special Convocation (November)
Hamilton, William Scott, LLD
MacLean, Hector Robertson, LLD
Zimmerman, James, LLD

1978

Spring
MacDonald, Murray William, LLD
McClellan, George Brinton, LLD
Desrochers, The Hon Louis Armand (Ninth Chancellor of the University), LLD
Wynn, Gordon Kenneth, LLD
Anderson, Anne, LLD
Smith, Alexander, LLD

Special Convocation (Legal, Alberta - June) (First Off-Campus Convocation)
Bugnet, Georges, LLD

Fall
Selye, Hans, LLD
Spragins, Franklin Keller, LLD (posthumously granted)

1979

Special Convocation (May)
LaCerte, Rev Father Arthur, LLD
Maillet, Madame Antonine, LLD

Spring
Pilkington, Wilfrid, LLD
Milvain, The Hon Chief Justice James Valentine Hogarth, LLD
Ward, Maxwell William, LLD
Van Vliet, Maurice Lewis, LLD

Fall
Coutts, Herbert Thomas, LLD

1980

Spring
Lynch-Staunton, The Hon Francis Charles (Lieutenant-Governor of Alberta), LLD
Dalby, Ronald Norman (Tenth Chancellor of the University), LLD
Geddes, Eric A (Chair, Board of Governors of the University), LLD
Salmon, Edward Togo, LLD
Vant, John Ross, LLD
Babin, Benjamin Raymond, LLD
Decore, The Hon Justice John N, LLD

Fall
Bancroft, H Hugh, LLD
Hockey, Lisbeth, LLD

1981

Spring
Viscardi, Henry Jr, LLD
Shoctor, Joseph Harvey, LLD
Ivany, Randall Eugene, LLD
Robinson, Isobel Margaret, LLD
Wolikowski, Gen Romuald, LLD

Special Convocation (October 16 - Opening of the Agriculture/Forestry Centre)
McCalla, Arthur Gilbert, DSc

Fall
McGhan, Alfred Clayton, LLD
Von Weizsäcker, Carl Friedrich, LLD

1982

Spring
Taylor, Ethel Isabella, LLD
MacNeil, The Most Rev Joseph Neil, LLD
Strom, The Hon Harry E (Premier of Alberta), LLD
Gowan, Elsie Park, LLD
Wyman, Max (Seventh President of the University), LLD
Baldwin, Gerald William, LLD
Glyde, Henry George, LLD

Special Convocation (St. Paul, Alberta - June)
Mother Teresa, LLD

Fall
Wagner, William Philip, LLD
Pattullo, Andrew, LLD

1983

Special Convocation (March)
Barber, Lloyd Ingram, LLD
Kerwin, Larkin, LLD

Spring
Cormack, Barbara L, LLD
Cormack, Col Eric Wyld, LLD
McCullough, Mattie Louise, LLD
Shevelov, George Y, DLitt
Forest, Jean Beatrice (Eleventh Chancellor of the University), LLD
Yalow, Rosalyn S, DSc
Gunning, Harry Emmet (Eighth President of the University), DSc
Tuttie, George Milledge, LLD

Special 75th Anniversary Convocation (June)
HRH Charles Philip Arthur George (Prince of Wales), LLD

Fall
Cloutier, Gilles George, DSc
Rankin, Bruce Irving, LLD

1984

Spring
Epstein, William Harold, LLD
Shipley, Marion Agnes, LLD
Sinclair, The Hon Chief Justice William Robert, LLD
Stewart, William H, LLD
Van Brabant, Jules Joseph Arthur, LLD
Weaver, John Barney, LLD
Horner, Hugh M, LLD
Sparling, M Saretta, LLD

Fall
McClure, Ruth Elizabeth, LLD
Keyfitz, Nathan, LLD

1985

Spring
McDonald, The Hon Mr Justice David Cargill, LLD
Wilson, The Hon Madame Justice Bertha, LLD
Harvie, Donald Southam, LLD
Clark, The Rt Hon Charles Joseph, LLD
Snell, Bernard, LLD
Hunley, The Hon (Wilma) Helen (Lieutenant-Governor of Alberta), LLD
Clandinin, Donald Robert, DSc
Pritsak, Omeljan, DLitt
Mol, Leo, LLD
Egoff, Sheila Agnes, LLD

Fall
Stollery, Robert, LLD
Huston, Helen Isabel, LLD

1986

Spring
Malone, The Rt Rev Joseph MacMillan, LLD
Wark, Robert Rodger, LLD
McCurdy, Sherburne, LLD
Hawrylyshyn, Bohdan, LLD
Lee, Lila Doris, LLD
Tarnopolsky, Walter Surma, LLD
Babey, Paul, LLD
Scambler, Thelma Ruth, LLD
Burns, Patricia Eileen, LLD
Lougheed, The Hon (Edgar) Peter (Premier of Alberta), LLD

Fall
Roche, Douglas James, LLD
Easton, Dorothy Jean, LLD
Hurtig, Melvin Gordon, LLD
Routhier, Monsignor Henri, Archbishop of Grouard, Retired, LLD

1987

Spring
Head, Ivan Leigh, LLD
Tobias, Phillip Vallentine, DSc
Pallister, Alfred Ernest, LLD
Poole, John Edward, LLD
Burrows, Barbara Anne, LLD
Kurimoto, Shizu, LLD
Andrekson, Margaret Weir, LLD
Schmid, Horst, LLD
Chretien, The Hon Jean, LLD
Savaryn, Peter, (Twelfth Chancellor of the University), LLD

Fall
Hay, Allan Stuart, DSc
Jarislowsky, Stephen, LLD
Crawford, Neil, LLD
Banks, Thomas Benjamin, LLD

1988

Special Convocation (June) Faculty of Medicine 75th Anniversary
Macbeth, Robert Alexander Leslie, DSc
McLeod, Lionel Everett, DSc

Spring
Dickson, Jennifer, LLD
Huang, Xinbai, LLD
Huston, Mervyn James, DSc
Smith, Isabel Munroe, LLD
Schlosser, John Lewis, (Chair, Board of Governors of the University), LLD
La Forest, The Hon Mr Justice Gerard Vincent, LLD
Moore, The Hon Chief Justice William Kenneth, LLD

Special Convocation (October - Faculty of Engineering 75th Anniversary)
Ford, George, DSc
King, Egerton Warren, DSc
Stanley, Donald Russell, DSc

Fall
Callwood, June, DLitt
Kaplan, Jacob Gordin, DSc (posthumously granted)
Baig, Tara Ali, LLD

1989

Spring

MacLean, Lloyd Douglas, DSc
Banister, Ronald Kitchener, LLD
Strembitsky, Michael Alexander, LLD
Walsh, Thomas Joseph, LLD
Cunningham, Chester Raymond, LLD
Ramsankar, Stephen Russel, LLD
Franklin, Ursula Martius, DSc
Marliss, Ethel Anne, DLitt

Fall

Folinsbee, Robert Edward, DSc
Blair, Sidney Robert, DSc
Begin, Monique, LLD

1990

Spring

Wheeler, Dorothy Anne, DLitt
Tuu'luuq Anguhalluq, Marion, LLD
Horowitz, Myer, LLD (Ninth President of the University)
Hargrave, Herbert Thomas, LLD
Bentley, Charles Fred, DSc
Smiley, Donald Victor, LLD (posthumously granted)
Erb, Richard Bryan, DSc
Riedel, Bernard Ewald, DSc

Glossary

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The entries which follow have been prepared by the Calendar Editor for information only. If needed, official definitions should be obtained from a member of the Registrar's Office staff.

Academic Schedule
A schedule of events and deadlines of importance to students and prospective students, covering the period of the University's academic year, July 1 to June 30.

Admission
Acceptance of a candidate for enrollment in a specified program and Faculty.

Advanced Placement
The process whereby students are excused from taking a particular course (usually at the junior level), because they have already acquired the knowledge necessary to proceed into another course in the subject at a more advanced level. Advanced placement, unlike advanced standing, does not serve to reduce the number of courses that a student must complete for the degree.

Advanced Standing
See Transfer Credit.

Aegrotat Standing
Provision whereby a Faculty may grant deserving students credit in one or more courses in which they have missed the final examination because of illness.

Auditor
A person who has been permitted to register in a course for informational instruction only. Regular attendance at classes is expected, normally without participation in assignments or examinations, and without credit towards a degree or diploma.

Baccalaureate
A term relating to the bachelor's degree.

Calendar
An annual publication of academic regulations, schedules, programs of study, and course descriptions.

Candidacy Examination
The examination which tests doctoral students' knowledge of their discipline and of the subject matter relevant to their thesis, and their ability to pursue and complete original research at an advanced level.

Corequisite
The requirement, usually a course, that must be taken in conjunction with, or previously passed, when registering in a course with corequisite requirements.

Course Load Requirement
The number of courses a student is expected to take while in attendance in a given academic session.

Course Weight
See Units of course weight.

Credit
The quantitative measurement assigned to a course. At the University of Alberta a credit is equivalent to one unit of course weight.

Credit by Special Assessment (Credit by Challenge)
The procedure whereby a student may seek credit in certain specified courses without actually registering in and taking the courses at the University of Alberta. This privilege is limited to students who have been admitted to the University.

Credit Course
A course that carries credit toward a degree or diploma.

Deferred Final Examination
An examination written by a student, with permission of the student's Faculty, subsequent to the regular time of writing.

Degree with Distinction
The notation which is inscribed on the permanent record and graduation parchment of a candidate for any degree, except an honors or graduate degree, if the candidate has obtained a grade point average of 7.5 or higher over the last two years of the program.

Degree with Honors (Honors Program)
A four-year concentrated course of study under the supervision of one of the departments in the Faculty of Arts or Faculty of Science.

Department
The basic organizational unit in an institution of higher learning responsible for the academic functions in a field of study. The term department may also be applied to an administrative or service unit in an institution.

Domicile
Domicile is the place in which a person has a settled connection for legal purposes either because his or her true home is there or because it is assigned to him or her by law. It is the place where he or she is generally understood to reside with the intention of remaining there indefinitely or to which he or she returns after a temporary absence. The term residence as it refers to legal residence is used as synonymous with domicile.

Entrance Requirements
Academic background necessary for admission to a particular program of study.

Extension Students
Students who are registered in any of the courses offered by the Faculty of Extension which may or may not lead to certificate credit.

Extramural Students
Students granted the privilege of taking one or more courses by correspondence or directed studies without having to attend the University of Alberta or any of its off-campus centres.

Faculty
A formal subdivision within the University whose mission is the administration of programs and courses relating (usually) to common fields of study and academic disciplines.

First-Class Standing
A distinction awarded to students who obtain a grade point average of not less than 7.5 while enrolled in a full, normal academic course load in the academic year in question.

Full Course
A course with a weighting factor of six or greater, that normally extends over two consecutive University terms.

Full-Time Students
Students who are registered for credit in the equivalent of nine units of course weight or more in a term.

Grade Point Average
A measure of a student's weighed average, obtained by dividing the total number of grade points earned by the total units of course weight attempted.

Grade Points
A weighted value assigned to the grade a student receives in a course, obtained by multiplying the grade by the course weight. Used in computing grade point averages.

Graduate Student
Students admitted to the Faculty of Graduate Studies and Research.

Half Course
A course with a weighting factor of less than six that normally extends over one University term.

Interdisciplinary Course
A course that is offered jointly by two or more departments, not necessarily in the same faculty.

Intersession (May-August Summer Period)
A period of lessons and study during the months of May through August which is divided into two, six-week terms. The first-term runs from the first week of May to the second week of June, inclusive; the second-term runs from the first week of July to the second week of August, inclusive.
For Graduate Studies students, Intersession is a period from May through August for which those who are working full-time on their graduate program record their presence.

Intramural Students
Students who are attending the University of Alberta or any of its off-campus centres.

Limited Enrollment
A restriction on the number of students admitted to a program where there are invariably more qualified applicants than it is possible to accommodate.

Matriculated Applicants
Students eligible for admission to a university program because they have satisfied the regular admission requirements of the Faculty offering the program.

Mid-Session Examination
The examination written at the end of the first term of a session (i.e. in December). For single-term courses the examination will be a final. For full- session courses it will be a mid-term examination.

Non-Matriculated Applicants
Students who are at least 24 years of age, and who are given permission to enroll in a degree program although they do not meet the regular admission requirements of a Faculty.

Part-Time Student
Students who are registered for credit in the equivalent of fewer than nine units of course weight in a term. See Course Load Requirements.

Plagiarism
The submission by a student of the words, ideas, images, or data of another person as the student's own in any academic writing, essay, thesis, research project, or assignment in a course or program of study.

Prerequisite
The preliminary requirement, usually another course, which must be met or waived before a course can be taken.

Reading Week
A recess near the middle of the second term designed to allow students to catch up on outstanding reading and to prepare for the oncoming final examinations.

Reappraisals
The privilege of having the final examination paper re-read in a particular course.

Reexamination
The provision whereby students may be granted (subject to the conditions published by their Faculties) a further examination in a course if their standing following the final examination is unsatisfactory.

Registration
The process of selecting courses that are to be taken by a student in a term or session, usually in accordance with the relevant program specifications for a degree or diploma.

Residence Requirements
See Transfer Credit, Course Load Requirements, Domicile.

Seminar
A group of students who meet regularly for reports and discussion in an area of research under the guidance of a professor.

Session
A period of lessons and study. See Winter Session, Intersession, and Term.

Statement of Results
An unofficial copy of the student's year-end academic results, with neither an original signature nor a seal.

Term
Each session (Winter and Intersession) is divided into two terms of equal length for the purposes of registration and the scheduling of classes and examinations.

Term Examination
An examination which is conducted prior to the time that the instructional portion of a course has been completed.

TOEFL
Test of English as a Foreign Language.

Transcript
A statement of the student's entire official academic record bearing the original signature of an authorized member of the Registrar's staff and the official seal of the University.

Transfer Credit (Advanced Credit)
Course credit which an institution accepts towards a degree,and which the student has not earned in the course work at that institution. A student proceeding toward a first (bachelor's) degree at the University of Alberta must complete a minimum of one full year's program of studies at this University. Normally these studies constitute the final year of the program.

Tutorial
Instruction given to students individually or in small groups.

Unclassified Students
Students registered in selected credit courses, but who are not committed or admitted to a degree or diploma program.

Undergraduate Student
Students registered in a Faculty other than the Faculty of Graduate Studies and Research.

Units of Course Weight
A numerical used in computing grade point average, which reflects the amount of class time devoted to the course.

Weighting Factor
A unit used in the calculation of a student's overall grade point average. In most faculties a weight of six is assigned to a full-session course (or equivalent) and a weight of three to a single term course.

Winter Session
The twenty-six week teaching session which commences near the beginning of September and concludes in April.

Withdrawal
The voluntary cancellation of registration by a student who completes a "Notice of Withdrawal" form. The student notifies the appropriate authorities thereby making it an "Official Withdrawal". When the student merely stops attending classes without notifying authorities, or withdraws after the deadline, failing marks may be recorded. This is termed "Unofficial Withdrawal."

Campus Guide Alphabetical Legend

Buildings

K3 Aberhart Hospital (a)
J4 Aberhart Residence (a)
J3 Aberhart Rehabilitation (b)
E4 Administration Building (b)
D3 Agriculture/Forestry Centre (c)
D6 Arts Building (a)
E3 Art Workshop 1 (b)
D3 Art Workshop 2 (a)
C4 Assiniboia Hall (c)
F6 Alberta Culture (b)
D4 Athabasca Hall (a)
C4 Avadh Bhatia Physics Laboratory (b)
D3 Blench Hydraulics Laboratory (d)
B4 Biological Sciences Centre (a)
C6 Business Building (b)
D5 Cameron Library (b)
J5 Canadian Red Cross Blood Transfusion Bldg (a)
D5 Central Academic Building CAB (d)
C2 Chemical Mineral Engineering Building (a)
D5 Chemistry Centre, East and West (a)
E5 Civil/Electrical Engineering Building (c)
I5 Clinical Sciences Building (b)
K5 Corbett Hall (a)
K2 Cross Cancer Institute (a)
E5 Dentistry/Pharmacy Centre (b)
C5 Earth Sciences Building (a)
F5 Education Centre, North and South (b)
B3 Faculty Club (a)
F7 Fine Arts Centre (a)
F9 Garneau Student Housing (c)
E3 General Services Building (a)
C5 Greenhouse (c)
C6 Henry Marshall Tory Bldg (c)
C6 Henry Marshall Tory Lecture Theatres (a)
F8 Health Services Building (d)
H2 Henday Hall (c)
G6 Heritage Medical Research Building (b)
G6 Home Economics Centre (a)
E7 HUB International (a)
D7 Humanities Centre (a)
D3 Hydraulics Laboratory (d)
H2 Kelsey Hall (a)
F8 Law Centre (a)
H2 Lister Hall (b)
H1 Mackenzie Hall (d)
H5 Mackenzie, Walter C., Health Sciences Centre (b)
I3 Materials Management (a)
C3 Mechanical Engineering Building (b)
H5 Medical Sciences Building (a)
J3 Mewburn Veteran's Centre (a)
D3 Morrison Structural Engineering Bldg (b)
G5 Newton Research Building (a)
H3 Northern Alberta Jubilee Auditorium (a)
F8 North Garneau Trailer Complex (b)
C4 Nuclear Research Centre (a)
I4 Nuclear Magnetic Resonance (b)
E5 Power Plant (a)
E4 Pembina Hall (a)
E2 Printing Services Building (a)
K5 Rehabilitation Lecture (b)
I2 RE Phillips Services Bldg (a)
B3 Ring House Gallery (b)
B3 Ring House 2 (c)
B3 Ring House 3 (d)
A3 Ring House 4 (a)
C7 Rutherford House (a)
E6 Rutherford Library, North and South (a)
F5 Saint Joseph's College (a)
F6 Saint Stephen's College (a)
D5 South Laboratory (d)
D3 Structural Engineering Laboratory (b)
E4 Students Union Building SUB (c)
C3 Temporary Lab (a)
C6 Tory, Henry Marshall, Building (c)
C6 Tory, Henry Marshall, Lecture Theatres (a)
C5 Trailer Complex 1 (b)
E5 Trailer Complex 2 (d)
G3 Universiade Pavilion (b)
F4 University Hall (a)
I3 University Heating Plant (c)
I3 University Hospital Daycare (b)
I5 University Hospital Hostel (a)
I4 Educational Development Centre (a)
A2 University House (a)
C4 V Wing (d)
F3 Van Vliet Physical Education and Recreation Centre, East and West (a)
K2 WW Cross Cancer Institute (a)
H5 Walter C. MacKenzie Health Sciences Centre (b)

Parking

F5 Education Car Park
J2 Southfeild Car Park
E3 Stadium Car Park
C2 Windsor Car Park
J5 Parkade
F6 A zone
G5 B zone
H6 C zone
B5 E zone
J4 F zone
K5 L zone
D2 M zone
E7 N zone
E8 U zone
B2 V zone
H4 X zone
H2 R zone
I2 T zone
I3 K zone
D3 W zone

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Saskatchewan Drive
Saskatchewan Drive
Edinboro Road
92 Avenue
91 Avenue
89 Avenue
89 Avenue
90 Avenue
89 Avenue
87 Avenue
83 Avenue
116 Street
114 Street
112 Street
111 Street
110 street
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112 Street
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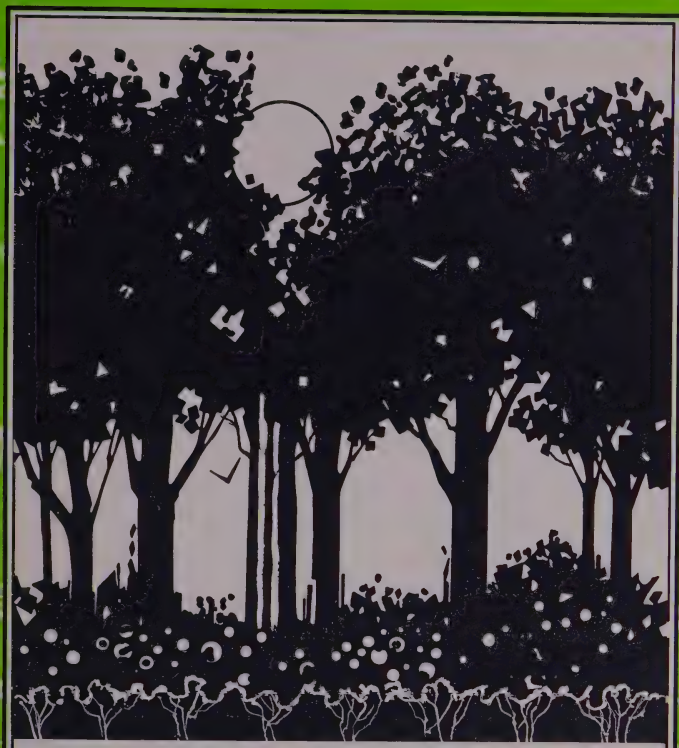
This Calendar was produced entirely on the Macintosh® using PageMaker 4.0®. *Amen.*

Faculty of Extension
University of Alberta



Spring & Summer

Intersession 1991

Special Sessions Calendar

Contact Phone Numbers

University Operator	**492-3111**
Advisory Services Centre	2735
Agriculture & Forestry (Faculty of)	4931
Arts (Faculty of)	4295
Bookstore	4215
Business (Faculty of)	5693
Campus Security	**5252**
Career & Placement Services	4291
Dentistry (Faculty of)	3117
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Education (Faculty of)	3757
Effective Writing Resources	2682
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Graduate Students' Association	2175
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International Centre	2692
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(*) Answering machine - listen through message, staff member will answer

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Intersession 1991 **Spring Term — May 6 - June 14** **Summer Term — July 2 - August 9**

PLEASE NOTE

(1) REGISTER EARLY— Students are reminded that only courses which can be justified by adequate enrollment are offered in Intersession. Low enrollment courses will be withdrawn by the following deadlines:

Spring Term — April 10, 1991.
Summer Term — June 5, 1991.

The telephone registration system will remain open after those dates for students to add courses or drop courses. (Refer to Step Four of the Telephone Registration Procedures.) Students registering after those dates may find some courses listed in the timetable have been cancelled due to low enrollment.

(2) When registering, students should ensure that their registration applies to the correct term of the Intersession. This information is noted in the TERM column of the timetable by the words SPR (Spring Term) or SUM (Summer Term) or by specific dates.

(3) **Students are responsible for the completeness and accuracy of their own registrations.** Please read the Calendar carefully and, if you are in doubt about the regulations pertaining to your program, consult the appropriate University official.

(4) Students are responsible for ensuring the accuracy and completeness of their official record at the end of each session that they attend by verifying their Statement of Results and the copy of their transcript provided during Winter Session registration and at convocation. Students should be aware that only the official transcript is retained permanently and that source documentation (the student file in the Registrar's Office) is destroyed *seven years* after the last registration. Queries regarding errors or omissions on the official transcript must be made as soon as possible, and will not be considered after the source documentation has been destroyed.

(5) The Calendar sets forth the intention of the University, at the time of its publication, with respect to all matters contained therein. The University reserves the right at any time to deviate from what appears in the Calendar, either in order to serve the best interests of the University, or because of circumstances or occurrences beyond the University's reasonable control. The University expressly denies responsibility or liability to any person or persons who may suffer loss or who may be otherwise adversely affected by such change.

(6) The University reserves the right to make changes in regulations governing degree programs from time to time. All such changes apply to continuing and new students. Where a required course for a degree program is no longer offered, the faculty may specify an alternative. Students who interrupt their program and who apply for readmission to the program will be required to comply with any new regulations upon resumption of their studies, Students are responsible for the accuracy of their address. Please advise the Registrar's Office of any changes to your address. **Students should annually refer to the Calendar for appropriate faculty regulations governing their degree program.**

For Intersession 1991, no new admissions will be accepted, with the exception of the Unclassified Student Program.

261 Academic Schedule — Intersession 1991

FEBRUARY 1991

Friday, 15
- Telephone Registration Systems opens.

APRIL 1991

Wednesday, 10
- Deadline for withdrawal of low enrollment courses in Spring Term. Students are reminded that only courses which can be justified by adequate enrollment are offered in Spring Term. The Telephone Registration System will remain open after this date for students to add courses or drop courses but some courses listed in the Timetable may have been cancelled due to low enrollment.

MAY 1991

Monday, 6
- Classes begin for Spring Term and courses given over the 12 weeks of the Intersession.

Monday, 6 - Tuesday, 7
- Auditor registrations will be accepted only on these days for Spring Term and courses given over the 12 weeks of the Intersession.

Tuesday, 7
- Last day for payment of fees[1] without penalty for Spring Term and courses given over the 12 weeks of Intersession.
- Last day to drop Spring Term courses and courses given over the 12 weeks of the Intersession.
- Last day for changes of registration in Spring Term and for courses given over the 12 weeks of the Intersession including changes in audit status.
- Last day to apply and register in the Unclassified Student Program for Spring Term courses and courses given over the 12 weeks fo the Intersession.

Saturday, 11
- Classes continue on this day in lieu of those cancelled because of the Victoria Day Holiday.

Monday, 20
- Victoria Day, University buildings closed.

Friday, 31
- Last day for withdrawal from Spring Term courses.

JUNE 1991

Wednesday, 5
- Deadline for withdrawal of low enrollment courses in Summer Term. Students are reminded that only courses which can be justified by adequate enrollment are offered in Summer Term. The Telephone Registration System will remain open after this date for students to add courses or drop courses but some courses listed in the Timetable may have been cancelled due to low enrollment.

Friday, 14
- Final examinations in SpringTerm courses.

JULY 1991

Monday, 1
- Canada Day Holiday, University buildings closed.

Tuesday, 2
- Summer Term classes begin.

Tuesday, 2 - Wednesday, 3
- Auditor registrations for Summer Term courses will be accepted only on these days.

Wednesday, 3
- Last day for payment of fees[1] without penalty for courses in Summer Term.
- Last day to drop Summer Term courses without financial penalty.
- Last day for changes of registration for students registered in Summer Term including changes in audit status.
- Last day to apply and register in Summer Term courses in the Unclassified Student program.

Saturday, 6
- Classes continue on this day in lieu of those cancelled because of Canada Day Holiday.

Friday, 26
- Last day for withdrawal from Summer Term and Full Session[1] courses.

Saturday, 27
- Classes continue on this day in lieu of those cancelled because of the Heritage Day Holiday.

AUGUST 1991

Monday, 5
- Heritage Day, University buildings closed.

Friday, 9
- Final examinations in Summer Term courses and courses given over the 12 weeks of the Intersession.

NOTE:

1. This deadline includes payment for courses which start later in the term.

262 University Regulations

262.1 Classification of Students

UNDERGRADUATE AND GRADUATE STUDENTS

(1) **Undergraduate Students** are those who are registered in a faculty other than the Faculty of Graduate Studies and Research. These students fall into two categories:

a. Full-time students—those who are registred in 9 units of course weight in a term in the Winter Session. In the Intersession full-time students are those who are registered in a three-week course with a weight of 3 or more units of course weight of six units of course weight in one or more courses extending over the full six weeks of the term. Students concurrently registered in a six-week three-weight course, and a three-week three-weight course, are considered to be full-time only for that three week period in which they are registered in both courses.

b. Part-time students—those who are enrolled in the equivalent of less than the course load noted above for full-time students.

(2) **Graduate Students** are those who have been admitted to the Faculty of Graduate Studies and Research. These students are designated as "Full-time" or "Part-time" by the Faculty of Graduate Studies and Research according to their workload of courses and/or research. A more detailed classification of graduate students will be found in § 202 of the University of Alberta 1990/91 Calendar.

INTRAMURAL AND EXTRAMURAL STUDENTS

(1) **Intramural Students** are those who are attending the University of Alberta at Edmonton or any of its off-campus centres.

(2) **Extramural Students** are those who, although not attending the University or any of its off-campus centres, are permitted to take one or more courses by correspondence or directed study. This privilege may be granted by a faculty in special circumstances.

CLASSIFICATION OF UNDERGRADUATE STUDENTS

(1) **Degree, Diploma, or Certificate Program Students** are those who are registered in a program leading to a degree, diploma, or certificate normally granted by the University of Alberta.

(2) **Special Students** are those who have been permitted to register in one or more courses, but not officially for credit towards a degree or diploma at this or any other institution.

(3) **Visiting Students** are bona fide students of other universities or colleges, who have been permitted to take one or more courses for transfer of credit to their own institutions which have agreed in advance to such an arrangement.

(4) **Probationary Students** are students who have been admitted (or permitted to continue) on a probationary basis, because their previous academic record is either deficient in some respect, below the standard ordinarily required, or difficult to assess. Normally, if such a student fails to meet the conditions stipulated within the time limit imposed, they will not be allowed to proceed further in the program.

(5) **Unclassified Students** are students registered in selected credit courses, but who are not committed or admitted to a degree or diploma program.

(6) **Auditors** are not necessarily admitted students and are not registered for credit, but are attending one or more courses under the following conditions:

a. Since permission to audit cannot be given until it is known that all students registered for credit have been accommodated, registrations as auditors will be accepted only on the first and second day of classes in the term.

b. The auditor registration form can be obtained from the Registrar's Office or Faculty Office.

c. The permission of the course section instructor must be obtained and the form submitted to the Registrar's Office.

d. The Registrar's Office will determine if space exists in the course section and, if space is available, process the registration.

NOTE: Obtaining the instructor's permission does not guarantee registration in the course section if it is determined that the course section is full.

e. Courses audited in this manner will not be considered as meeting prerequisite, admission, or course requirements for any University degree programs.

f. Individuals auditing courses shall limit their participation in the class to that deemed appropriate by the instructor.

g. Any person who is registered as a full-time or part-time student may also seek permission to audit a course by securing the approval of the instructor and the dean of the student's faculty.

h. The imposition of attendance requirements for auditors is a matter of faculty self-determination. Auditors should seek clarification of this information from the faculty offering the course when they register.

i. Withdrawal from an audited course will result in a grade of "AW", as will a failure to attend where attendance is a course requirement.

262.2 Admission

ADMISSION REQUIREMENTS

Please Note: The following regulations outline the admission requirements presently in effect at the University of Alberta. For the 1991 Intersession, no new admissions are being accepted.

Admission from Alberta High Schools: Every applicant for admission from the high schools of Alberta must present an overall average of at least 70% on five appropriate Grade XII subjects and a mark of at least 50% in each. Faculties may require a higher overall average, and/or a higher mark in a particular subject. When this is done, it is indicated in the detailed requirements of the faculty. For detailed information on particular faculties, students should consult Admission Requirements Brochure available from the Office of the Registrar.

Refusal of Admission: Notwithstanding anything in its regulations, the University of Alberta may, at its discretion, refuse admission to any applicant. Admission will normally be refused to an applicant who has had to write what the University considers an inordinate number of examinations to attain the nominal entrance requirements of the University.

ADMISSION PROCEDURES FOR NEW STUDENTS

Any person who wishes to register and who has never attended the University of Alberta before must seek admission by the deadline as noted in the Academic Schedule (§261). The procedure is outlined below.

Undergraduate Students: Complete an Application for Admission form and return it with the $30.00 application fee to the Office of the Registrar. Arrange to have two transcripts for all previous education sent by the appropriate offices to the Registrar.

Graduate students: Complete the Application for Admission to Graduate Studies form and return it to the Office of the Faculty of Graduate Studies and Research. Arrange to have two transcripts sent by each of the appropriate offices for all previous education to the Office of the Faculty of Graduate Studies and Research.

Unclassified Students: Complete an Unclassified Student Application and Registration form and return it with the $30.00 application for admission fee and the tuition fee to the Office of the Registrar. Notes: (1) the application for admission fee is required only once as an Unclassified student; (2) students who have attended the University of Alberta as an Unclassified Student and who subsequently wish to transfer to a graduate or undergraduate Faculty must complete the appropriate application for admission form, and submit the required $30.00 application for admission fee.

Transfer Credit: Transfer credit (in the form of advance credit) may be granted to applicants for admission who have completed one or more University-level courses at another recognised university or college. Transfer of credit is used to reduce the length of the program the student is required to take at the University of Alberta to qualify for a degree. Generally the amount of transfer credit granted will depend on how relevant and applicable the previous course work is to the particular degree program applied for.

The amount of transfer credit is determined by faculty regulations, and shall be subject to the same regulations as for those transferring from one faculty to another within the University.

Some provincial post-secondary institutions have approved university transfer programs that provide for transfer of credit. The University of Alberta will accept for credit the courses listed in the appropriate university or Provincial transfer guide to the extent that the courses fit the degree program to which the student wishes to transfer.

A copy of the annual Alberta Transfer Guide which explains the nature and the detail of transfer credit arrangements between various post-secondary institutions in Alberta is available from:

Alberta Council on Admissions and Transfer
4th Floor, 9942-108 Street
Edmonton, Alberta
T5K 2J5
Telephone: (403) 422-9021

Advanced Placement: Advanced placement may be granted to applicants who have taken the equivalent of university courses in some other manner. This excuses them from taking the corresponding university courses, but other courses must be taken in their stead. Thus, students who have been granted advanced placement will not have the length of their program reduced.

If applicants feel they may be eligible for either transfer credit or advanced placement, they should ensure that the application is submitted well in advance of the deadlines given in §261. The University reserves the right to require applicants for transfer credit or advanced placement to write examinations at any level including that of matriculation.

Credit by Special Assessment: Some faculties have agreed to allow students to seek credit in certain specified courses without actually registering in and taking courses, if they can demonstrate an acceptable level of mastery of the course content. The procedure whereby a student seeks credit in a course by this non-traditional route is known as **Credit by Special Assessment.**

Faculties, in consultation with departments, will determine which, if any, of their course credits may be earned by special assessment, and the conditions that students must satisfy in order to have an application approved. Interested students are advised to contact their faculty.

The privilege of seeking credit in a course by special assessment is limited to students admitted to the University.

Students wishing to receive credit in courses by this means are advised to report to their Faculty Office in order to be apprised of faculty regulations and deadlines for submission of applications.

ENGLISH LANGUAGE PROFICIENCY

English is the primary language of instruction in all faculties except Faculté Saint-Jean, where French is the primary language. Therefore, all the applicants to undergraduate faculties other than Faculté Saint-Jean must possess an adequate knowledge of written and spoken English as a prerequisite to admission. For example, non-matriculated applicants and unclassified program students must comply with the requirement along with other applicants.

Applicants to Faculté Saint-Jean need not demonstrate proficiency in English prior to admission being granted. However they must demonstrate profiency in English before they may be granted a degree from this institution.

Regardless of country of origin or of citizenship status, all applicants except for Faculté Saint-Jean will be required to demonstrate proficiency in the English language prior to admission. This demonstration may take any one of several forms:

(1) Six full years of education in English in Canada or the equivalent in another country where English is the principal language. Such education must include the Alberta Grade 12, or equivalent level, and can be in a combination of secondary and post-secondary training.

(2) Successful completion of the equivalent of 6 years of full-time instruction in a school/institution in Alberta in which the major language of instruction is other than English, but where the level of English proficiency required for graduation is equivalent to that in English language schools/institutions in Canada.

(3) A grade of 80% or better on the diploma examination portion (only) of the Alberta English 30 course, or a grade of 6 or 7 on the International Baccalaureate Higher Level English course or a grade of 5 on the Advanced Placement English (Language Composition: Literature and Composition) course.

(4) Graduation from a degree program offered by an accredited university at which English is the primary language of instruction and in a country where English is the principal language.

(5) A score of at least 580 on the test of English as Foreign Language (TOEFL) or a score of at least 90 on the Michigan English Language Assessment Battery (MELAB). The TOEFL results must include a score of at least 50 on each of the three components.

NOTE: Authority to hear petitions and to waive the requirement for undergraduate applicants to write the TOEFL resides with the Registrar acting on behalf of the Faculties. Exemptions will be based on assessments of the applicants English Language proficiency as evidenced by a written petition and a personal interview. Please direct enquiries and petitions to the Associate Registrar, Admissions.

Specific Faculty Requirements

Some faculties may require greater strength in English communicative skills than is required in other programs.

These additional requirements are detailed in the various faculty regulations sections of this Calendar. In applying to such faculties the applicant must satisfy the additional language requirements as well as meet the general requirements outlined above. Students seeking entry as nonmatriculated applicants should see the special English proficiency requirements detailed in the various faculty regulations sections of the Calendar.

Further information on TOEFL examinations is available from the Schedules Division, Office of the Registrar, Room 120, Administration Building. TOEFL application forms are available from the Student Access Centre, Office of the Registrar, Administration Building; or by writing directly to Educational Testing Service, Princeton, New Jersey, U.S.A., 08540.

ADMISSION PROCEDURES FOR CONTINUING AND FORMER STUDENTS

Students who have previously registered and are continuing in the same program without interruption are not required to re-apply for admission to subsequent years unless they have been advised that they may not continue in the program.

Students who wish to register either in another program within the same faculty or in a program offered by another faculty must complete an Application for Re-admission form and submit the appropriate fee. This may be obtained from the Registrar and the application must be approved by the Dean who is responsible for the program sought.

Students who have previously attended the University of Alberta as Unclassified Students and who subsequently wish to transfer to a graduate or undergraduate Faculty must complete the appropriate application for admission form and submit the appropriate fee.

Students who have interrupted their program for more than twelve months must also complete an Application for Re-admission form and submit the appropriate fee which will be handled in the same manner as that outlined in the paragraph above.

262.3 Registration

RESPONSIBILITY FOR REGISTRATION

Students are responsible for the completeness and accuracy of their registration. Particular care should be exercised to ensure that students have the required prerequisites. **Students wo register and do not attend and fail to cancel their registration will be subject to fees and possible academic penalty.**

LIMITATIONS ON REGISTRATION

Generally, one full course or equivalent per term is regarded as the normal load for a student in the Intersession. However, students with a good academic record may be permitted by their faculty to register in more than one course. Decisions with respect to the quality of a student's academic record normally will be based on the equivalent of a year's university work completed previously. Students must contact their faculty office to obtain approval to increase their course load.

There are, however, certain designated courses which may not be taken concurrently with other courses and this is indicated immediately after the course number in the Schedule of Courses and Timetable.

COURSE SELECTION

A consolidated schedule of courses and Timetable for both terms of Intersession appears in Section 269 of this calendar, students should ensure their registration applies to the correct term.

Every effort will be made to have the courses, sections, and instructors follow the Calendar descriptions, but courses and sections may be dropped or added, and instructors may not be those listed.

PREREQUISITE COURSE REQUIREMENTS

Students registering in courses for which a prerequisite is listed must meet the prerequisite requirements. A grade of 4 is the minimum grade acceptable in a course which is to be used as a prerequisite. Departments may cancel the registrations of students who do not meet the prerequisite requirements as stated in the course descriptions in this calendar.

Degree credit may be withheld for courses with prerequisite requirements if the prerequisite requirements have not been met or have not been waived in writing.

Where a prerequisite is stated, it is understood that equivalent courses may be used to satisfy the requirement. In addition, the prerequisite requirements may be waived with the written approval of the department that offers the course.

Students who are unsure that they meet the prerequisite requirements in a course, or who wish to obtain permission to have a prerequisite waived, should consult the department offering the course.

COREQUISITE COURSE REQUIREMENTS

Students registering in courses for which a corequisite is listed must also register in the corequisite course or have previously passed the corequisite course with a minimum grade of 4. Departments may cancel the registrations of students in courses offered by the departments who do not meet the corequisite requirements as stated in the course description of this calendar. Degree credit may be withheld for courses with corequisite requirements if the corequisite requirements have not been met or have not been waived in writing.

Where a corequisite is stated, it is understood that equivalent corequisite requirements may be waived with the written approval of the department that offers the course.

Students who are unsure that they meet the corequisite requirements in a course, or who wish to obtain permission to have a corequisite waived, should consult the department offering the course.

Courses with corequisite requirements may only be used for degree credit if the corequisite requirements have been met or waived in writing. A grade of 4 is the minimum grade acceptable in a course used as a corequisite.

REGISTRATION PROCEDURES (INCLUDING CHANGES AND CANCELLATION OF REGISTRATION)

Please refer to Telephone Registration Procedures (Section 267).

NOTE: The Telephone Registration System cannot be used to register as an Auditor.

AUDITOR'S REGISTRATION PROCEDURE

Auditor's Only: Students wishing only to audit a course, who have not been admitted to a faculty, and who are not registered (or planning to register) in any courses for credit, must obtain an 'Auditor Only Registration Form' from the Office of the Registrar. The approval (and signature) of the Instructor of the course must be obtained, and the form delivered to the Office of the Registrar, where it will be determined if space in the course exists. If space exists, the registration will be approved and a fee assessment provided. Since space in many classes is limited, auditors **will not** permitted to register in courses which are over-subscribed. For this reason, **AUDITOR registrations are accepted only on the first or second day of classes for the course**.

Combination of Credit and Audit Courses. Students who have already been admitted to a faculty, and who wish to only audit a course, or to audit a course in addition to taking a course for credit, must use the 'Change to Audit Status/Withdrawal' form which can be obtained from the Office of the Registrar or their Faculty Office.

To add courses as an auditor, students must complete this form, obtain the approval (and signature) of the Instructor and deliver it to the Office of the Registrar.

To change from credit to audit (for those who have already registered in the course for credit), students must also complete the above form, obtain the approval (and signature) of the Instructor, but must also obtain the approval of the their Faculty Office before delivering the form to the Office of the Registrar.

In both cases, the Office of the Registrar will determine if space in the course exists. If space exists, the registration will be approved and a fee assessment provided. Since space in many classes is limited, Auditors **will not** be permitted to register in courses which are over-subscribed. For this reason, **AUDITOR registrations are NOT accepted PRIOR to the first or second day of classes for the course.**

262.4 Fees - Intersession

This section contains the following information:

262.4.1 Undergraduate instructional and general fees.
262.4.2 Graduate instructional and general fees.
262.4.3 Deadlines for paying instructional and general fees.
262.4.4 How to obtain and pay your fee assessment.
262.4.5 Penalties for late payment.
262.4.6 Obtaining a refund.
262.4.7 Fee remission program for senior citizens.
262.4.8 Schedule of fees for special services.
262.4.9 Privileges conferred by general fees.

At the time of publication of this Calendar, the 1991-92 fee schedule had not been set. Fees are approved by the Board of Governors and students pay their fees at the rates which are in effect at the time of payment.

If you have a question about fees, please call the following:

Undergraduate fee assessment: Registrar's Office (492-3113)

Graduate fee assessment: Faculty of Graduate Studies and Research (492-3499)

Fee payment: Comptroller's Office (492-3389)

262.4.1 1990/91 Undergraduate Instruction and General Fees

262.4.1.1 How Instructional (Tuition) Fees are Assesed.

With few exceptions, tuition fees for undergraduate students are assessed by calculating the cost of each course in which the students are registered for credit, according to the following formula: course weight x fee index value x 2. In the **Course Descriptions** section of this Calendar, the course weight is shown following the title of each course, and is indicated by*. The fee index value is a dollar amount that is approved annually by the Board of Governors.

Audited courses are assessed using formular "course weight x fee index value".

Fee are assessed by term. A full-session course counts for fee purposes as two half-courses, one in each term.

Differential fee for students on Student Authorizations: If you are a student who is not a Canadian Citizen or Permanent Resident you are required to pay an additional 50% on tuition fees. If you become a Permanent Resident (landed immigrant) during a session, part of the differential fee may be refunded. Please submit proof of your change of immigration status to the Registrar's Office (main floor Administration Building).

262.4.1.2 Undergraduate General Fee Schedule

Student are assessed general fees per term for the following items; the corresponding privileges conferred are explained in 262.4.9. Exceptions to general fee payment rules are listed at the end of this section.

Library & Computing Services
Students' Union[1]
Health Services

[1] Includes the use of athletic facilities.

Exceptions to general fee payment regulations:

- Unclassified students do not pay general fees, with the exception of the Library & Computing Services fee, and are not granted the corresponding privileges.

262.4.2 Graduate Instructional and General Fees

262.4.2.1 How Instructional (Tuition) Fees are Assessed

Student in Degree Programs

Program Fee: Each category of graduate program has been assigned a "program" fee, which covers the basic instructional cost per student for that program. The program fee is based on a term fee, defined below. For an explanation of graduate student classifications, see 262.1.

Term Fee: This is the basic unit of program fee assessment for one term of full-time registration in Winter Session.

Program Category	Total Program Fee
Qualifying Period[1]	Maximum of 2 term fees
Probationary Period[2]	Maximum of 2 term fees
Master's Degree (Cat. A)	2 term fees
Master's Degree (Cat. B)	3 term fees
Doctoral Degree (two-year)	4 term fees
Doctoral Degree (three-year)	6 term fees

[1] Qualifying period program fees are not credited toward the program fees for any subsequent degree program(s) a student may wish to take.

[2] When probationary students are re-classified as candidates for a degree, the program fees assessed for the probationary period are credited toward the program fee for the student's subsequent degree program.

Program fees are assessed in installments. The size of the installment you are assessed at each registration depends both upon the session in which you register, and upon your registration status (full-time or part-time). The amount you are assessed is credited toward your total program fee, successively reducing the balance you owe. For each term of the session in which you register, the installment is:

Session	Registration Status	Installment payable
Winter or Intersession	Full-time	1 x term fee
Winter or Intersession	Part-time	1/2 x term fee

Minimum Instruction Fee: Once you have been assessed your program fee in full, you are assessed a minimum instruction fee for all subsequent terms of registration. If there is a balance owing on your program fee which is less than the installment that would normally be assessed, you are assessed either that balance or the minimum instruction fee, whichever is greater.

Continuous Registration Fee: Students who wish to keep their program active, but do not wish to register either in course or in project or in thesis research, register in continuous registration. Such students are assessed a continuous registration fee for each term in which they are so registered. (For 1990/91 the continuous registration fee is $249.00.)

Re-admission Fee: Student must register at least once in a twelve-month period in either course, project or thesis research, or in continuous registration. Students who fail to do so must re-apply to their graduate program and be re-admitted before they can resume their program of studies. All re-admitted students are assessed a re-admission fee in addition to all other applicable fees.

Individual Course Fees: Students in degree programs who wish to take courses extra to their degree program are assessed individual course fees for all such courses. These fees are normally calculated according to the following formula: fee index value x course weight x 2. (The course weight is shown following the title of each course in the Calendar, and is indicated by *.)

General Fees: All students in degree programs are assessed general fees in addition to instructional fees. See 262.4.3.

Special Graduate Students, Visiting Graduate Students, and Postgraduate Diploma Students

Individual Course Fees: Students in these categories are assessed individual courses fees. These fees are normally calculated according to the following formula: fee index value x course weight x 2. (The course weight is shown following the title of each course in the Calendar, and is indicated by *.)

General Fees: All students in these categories are assessed general fees in addition to instructional fees. See 262.4.3.

262.4.2.2 Differential Fee

Students who are not Canadian Citizens or Permanent Residents are assessed a "differential fee" of an additional 50% of all instructional fees (program fees, minimum instruction fees, continuous registration fees and individual course fees). If you become a Permanent Resident (landed immigrant) during a session, part of the differential fee for that session may be refunded. Please submit original proof of your change of immigration status to the Faculty of Graduate Studies and Research. The differential fee is not counted toward the total program fee.

262.4.2.3 1990/91 Graduate General Fee Schedule

Students are assessed general fees for each term in which they register as shown below, the corresponding privileges conferred are explained in 262.5.2.9.

Registration
Library & Computing Services
Graduate Students' Association[2]
Athletic Services[3]
Health Services[1]

[1] Extramural students are not assessed these fees.
[2] Mandatory in the Intersession for those students who were not assessed this fee in the previous Winter Session i.e., either were not registered in the Faculty of Graduate Studies and Research then, or were extramural.
[3] No athletic fees are assessed in the Intersession. Athletic privileges are granted during this period to all students with valid ID cards for the current Intersession, or from the previous Winter Session.

262.4.2.4 Fees Inquires

The Faculty of Graduate Studies and Research is responsible for the **assessment** of all graduate student fees. Inquires concerning graduate fee assessments, changes in fees related to program or registration changes, and so on, should be directed to the Fees Coordinator, Faculty of Graduate Studies and Research.

The Fees Division, Office of the Comptroller is responsible for fee **collection.** Inquires concerning method of payment and late payment penalties should be addressed to the Fees Division, Office of the Comptroller.

262.4.3 1990/91 Deadlines for Instructional and General Fee Payment

Spring Terms and Full Sessions	May 7, 1991
Summer Term	July 3, 1991

These deadlines include payment for courses which start later in the term.

In those rare instances where a student is permitted to register late, the last date for payment of fees is 10 days after the date of assessment.

262.4.4 Obtaining and Paying our Fee Assessment

262.4.4.1 Obtaining a Fee Assessment:

Intersession fee assessments are mailed to the most recent mailing address provided.

Unclassified Students are required to pay their fees when they register.

262.4.4.2 Method of Payment:

Cheques or money orders should be made payable to the University of Alberta; please write your Student ID number on the cheque. Your fee assessment notice must be presented with payment.

Students registered for a full session may choose to pay fees in two installments, one for each term. Spring Term fees must be paid by the Spring Term deadline, and Summer Term fees by the Summer-term deadline. **An installment charge is payable with the second installment.**

262.4.4.3 Where to Pay Fees:

Fees can be paid:

- in person, at the cashier's wicket of the Comptroller's Office, third floor, Administration Building (hours for February - April, 9:00 - 12:00, 13:00 - 16:00, and for May - August, 8:30 - 12:00, 13:00 - 15:30);
- by campus mail by depositing your cheque and fee assessment in the mail slot on the 3rd floor of the Administration Building. After hours, you can use the campus mail box located at the front of the Administration Building.
- by regular mail, to the Comptroller's Office, University of Alberta, Edmonton, AB T6G 2M7.

Fees must be **received** in the Comptroller's Office by the payment deadline, if late payment penalties are to be avoided (see 262.4.5). Mail delays will not be accepted as a reason for late payment.

262.4.4.4 Dishonored Cheques

Payment by dishonored cheque is treated as nonpayment on fees. Please refer to 262.4.5. for consequences. In addition to the penalties outlined there, **a $15 penalty is assessed for the dishonored cheque itself.**

262.4.4.5 Student Loans:

Students who apply for assistance from the Students' Finance Board on or before their last day for payment of fees without penalty will not be charged a late penalty provided that their loan application are subsequently approved, resulting in full payment of fees on or before the last day of the appropriate session.

Students must be registered full-time for the period of their loan. If your loan covers both terms of the Intersession, you must be registered for credit in courses with a combined weight of 6 or more in each term in order to have your loan approved.

How to process an Alberta loan: Students who receive loan assistance through Students' Finance Board of the Province of Alberta should submit all copies of their Certificate of Eligibility **with their laminated 1990/91 Student ID card** to the Comptroller's Office fees wicket on the third floor of the Administration Building.

The fees due to the University are the first charge against the loan. If the amount of assistance awarded is less than the full amount of fees, the balance of fees owing is subject to normal fee payment regulations and deadlines.

262.4.4.6 Receipts

If you pay by mail, your cancelled cheque is your fee payment receipt. You may request a formal receipt from the Comptroller's Office for such purposes as reimbursement by your employer.

The Tuition and Education Credit Certificate will be mailed by the Office of the Comptroller in late February to students whose fees have been fully paid (see next section). This form replaces the former Education Deduction Certificate and the separate tuition fee receipt.

262.4.5 Penalties for Late Payment of Fees

Nonpayment of fees does not constitute withdrawal from courses. Please refer to 261 of this Calendar for instructions on withdrawing from courses.

If fees owing are not paid by the relevant deadline, all certification of your student record (diploma, transcript, Tuition and Education Credit Certificate, etc.) is withheld. You will also not be able to register in any future sessions, or make changes to your current registration, until your account has been settled. A late payment penalty of $15 per month is assessed for each month in which your account is outstanding, to the end of the session. Further information on this topic can be found in 262.7.

262.4.6 Obtaining a Refund

Withdrawals

Refer to Step Four in the Telephone Registration Procedures for course add/drops prior to the telephone registration deadlines.

Students who wish to withdraw from the University must complete a "Change to Audit Status/Withdrawal" form. This form must be submitted to their Dean for approval. Students who withdraw without completing the form are not eligible for any refund of fees nor from exemption from fees in the event they have not been paid. If the withdrawal form is approved by the Faculty Office on or before the date specified in the Academic Schedule (261.1) the student will receive a full refund. A withdrawal form approved after those dates will have the fees re-assessed on a pro-rate basis by the Office of the Comptroller to the effective date on the withdrawl from (the date the form was approved) and an administrative charge added. In the case of the graduate students, the registration fee will be retained. Note also that no fee will be charged for Spring Term and Full Session courses dropped on or before the second day of the Session nor for Summer Term course(s) dropped on or before the second day of the term.

Refunds will be authorized when the previously paid fee assessment exceeds the assessment to date of withdrawal. The effective date of withdrawal is that on which the Dean or Director signs the required forms.

Graduate Students:

Consult the Faculty of Graduate Studies and Research to determine the effect on your fees before you withdraw from individual courses, a term, a session or a program.

262.4.7 Fee Remission Program for Senior Citizens

Residents of Alberta who are aged 65 or over are eligible for complete remission of both tuition and general fees. You must meet normal admission criteria and aplication deadlines for your chosen program, and must have reached your 65th birthday before the start of the session in which you are registering. Application for Remission forms are available from the fees wicket of the Comptroller's Office, third floor, Administration Building, and must be completed and submitted with your Senior Citizen's identification card, or other proof of age and residency, by the fee payment deadline.

262.4.8 Special Services Fees

Fees are assessed for the following special services.

Examination and examination-related fees:
- Deferred examination
- Re-examination
- Special examination[1]
- Examination conducted at an established centre other than Edmonton
- Final examination reappraisal
- Credit by special assessment

[1] Part of the fee may be waived if a student is prevented by illness or other extreme circumstance from writing the examination at the regular time.

Other fees (**payable in advance**):
- Official transcript of student record
- Replacement diploma
- Application for undergraduate admission
- Application for undergraduate readmission or transfer
- Graduate readmission (262.5.2.1)
- Graduate thesis microfilming
- Replacement Student ID card

262.4.9 Privileges Conferred by Payment of General Fees

Please refer to Sections 262.4.1.3 and 262.4.2.4.

Library & Computing Services fee

This fee recognizes the costs of maintaining extensive library and computer support systems for the benefit of all students, full- and part-time, on- and off-campus, both directly and indirectly.

Student's Union fee

Associate members may not stand for office, but are entitled to all other priviliges. For further information see 266, or contact the Student's Union Vice-President (Finance & Administration) in Room 259 SUB (492-4236).

Graduate Student's Association fee

For information contact the GSA Office in Room 206, North Power Plant (492-2175).

Health Services fee

Confers the privilege of using University Health Services, which offer a wide range of convenient medical consultation, immunizations, an on-site pharmacy and reduced costs on prescriptions and dental hygiene. See also 266.

262.5 Academic Regulations

PRE-SESSION STUDY

Where pre-session study is a requirement, this is indicated in the schedule of the courses offered, and the students concerned must request study outlines from the Office of the Registrar. This may be done in-person at the Office of the Registrar or by mail using the request form immediately following the Timetable. Information concerning required textbooks may be obtained from the University bookstore.

Where pre-session study is required, examinations on the prescribed preparatory study may be held during the first week of classes. If preparation proves to be inadequate, a student may be asked to withdraw from the course. This requirement makes it essential that registration be completed at an early date, textbooks secured, study commenced, and work carried forward consistently.

CHANGES IN REGULATIONS

The University reserves the right to make changes in regulations governing degree programs from time to time. All such changes apply to continuing and new students. Where a required course for a degree program is no longer offered, the faculty may specify an alternate. Students who interrupt their program and who must apply for re-admission to the program will be required to comply with any new regulations upon resumption of their studies. *Students should annually refer to the Calendar for appropriate faculty regulations governing their degree programs.*

RESIDENCE REQUIREMENTS

A student proceeding towards a first (bachelor's) degree is expected to complete at least half of the credits required through courses offered by the University of Alberta (either "on" or "off" campus in Winter Session or Intersession). Normally, at least half of these "University of Alberta" courses will be taken as the final courses in the program. Credits obtained by special assessment at the University of Alberta may be included in the count of courses used to satisfy the residency requirements.

Students should consult their faculty's section of the calendar in order to become familair with time limits for completion of degrees.

ATTENDANCE

Since presence at lectures, participation in classroom discussions and projects, and the completion of assignments are important components of most courses, students will serve their interests best by regular attendance. Those who choose not to attend must assume whatever risks are involved.

EVALUATION PROCEDURES AND GRADING SYSTEM

(1) **Weighting of Term Work and Final Examinations**

In each course in which a final examination is held, a weight of not less than 30% and not more than 70% will be assigned to the final examination, except where a departure from this arrangement has been authorized by the council of the faculty in which the department offering the course is situated. The remaining weight for the course will be assigned to term work.

(2) **Guidelines Regarding Term Work**

The following guidelines should normally be followed:

a. Instructors are required by GFC to announce at the beginning of each course the distribution of weight between term work and final examination. In particular, they should provide a course outline and inform students during the first week of classes of any assignment, examination, or other course activity (e.g. class participation) to which 20% or more of the final term mark will be allotted. Instructors are also required to inform students at the beginning of the session that information on re-examination policies may be obtained from individual faculty offices.

b. Instructors are required to announce at the beginning of a course the manner in which the official University grading system is to be implemented in that particular course or section, i.e. whether a particular distribution is to be used to determine grades, or whether there are absolute measures or marks which will determine them, or whether a combination of the two will be used.

c. Upon request, instructors are required to provide the method which was used to translate final and, where appropriate, term marks into grades.

d. In addition, instructors should announce the weight given to each assignment, examination or other course activity *well before* the assignment, examination or other course activity is to be completed by the student.

e. Instructors should allow students a reasonable time in which to complete an assignment, bearing in mind its weight.

f. Instructors should mark and return to students with reasonable dispatch all term examinations and, provided the students submit them by the due date, all course projects, papers, essays, etc.

g. All projects, papers, essays, etc., should be returned on or by the last day of classes in the course, with the exception of a final major project or paper (which may be *due* on the last day of classes), which should be returned by the date of the scheduled final examination or, in non-examination courses, by the last day of the examination period.

(3) **Procedures for Registering Complaints about Marking, Grading and Related Issues**

a. Where the above guidelines have not been followed or where students have concerns about the instructor's teaching, the student should make the concern known to the appropriate individual in the following sequence:
   1) Instructor
   2) Chairman of the department in which course is taught
   3) Dean of the faculty in which course is taught

b. A student needing advice on these matters should see the student advisers in the Office of the Dean of Student Services.

c. These procedures do not constitute a mechanism for appeals and grievances regarding the academic standing or individual grades of a student. Appeals and grievances of that nature are dealt with later in this section of the Calendar.

(4) **The Nine Point Grading System**

An important feature of the nine point grading system is that the marking and grading are supposed to be done separately. For a large class, examiners should mark the papers and record the raw scores, sort the papers in order of merit, and decide whether the class as a whole is average, above average or below average. They should then determine what percentage of the class should fall into each of the nine possible grades and assign grades accordingly. In small classes, the honors or senior courses, instructors should mark in terms of raw score, rank the papers in order of merit, and with due attention to the verbal descriptions of the various grades, assign an appropriate grade to each paper.

The process of ranking and grading students may be carried out as each assignment and examination is marked, or it may be deferred until all assignments, including the final examination, have been marked. Instructors should announce at the beginning of a course, the manner in which the official University nine point grading system is to be implemented in their particular course.

In the first case, at the end of the term, instructors will have a record of each student's grades for all assignments and examinations with the percentage weight assigned to each. They should then assign a term results summary remark and a final grade in the course, rounding off any fractional values that may occur to the nearest full grade.

In the second case, at the end of the term, instructors will have a record of every student's marks (raw scores) for all assignments and examinations with the percentage weight assigned to each. They should then compute a term results summary mark based on the student's term mark and final examination. Having computed this for each student, they should then rank the students in order of merit and assign final grades by the process described in the first paragraph of this section.

Since the distribution of grades is not standard, the system should not be referred to as a stanine system, nor should the various grades be called "stanines".

Undergraduate Grades

	9	
	8	Excellent
	7	
	6	Good
	5	
Pass	4	Satisfactory
	3	Unsatisfactory
Fail	2	
	1	

Graduate Grades

	9	Excellent
	8	
	7	Good
Pass	6	Satisfactory
	5	Unsatisfactory
	4	
Fail	3	
	2	
	1	

(5) **Grade Point Average (GPA)**

All courses have been assigned an appropriate weighting factor, which along with a student's grades, enables the Registrar's Office or the Dean's Office to compute the GPA. The GPA is common to all Faculties. This is a sessional GPA only and should be reported on transcripts and session-end Statements of Results.

Rules for Computing the GPA

a. The GPA for any session shall be based on the final grades in all courses taken during that session including half-courses repeated in the second term and courses extra to the degree program.

b. A re-examination mark or a deferred examination replaces the original final examination mark. The revised final grade will be included in the computation of the GPA. The Faculty of Law is exempt from this policy as re-examinations are graded on a pass/fail basis. The following will apply to the Faculty of Law:
   1) The original grade will be retained in the computation of the GPA after the re-examination;
   2) Where a re-examination is graded as a pass, the remark "CR" will be noted on the transcript will be noted on the transcript to indicate Completed Requirements in the re-examination course.
   3) The remarks "R" and "D" will be noted on a trascript to indicate that a re-examination or deferred examination was written in the course.

c. When a student has an Absent-Deferred, Incomplete or missing grade, the GPA will not be computed until a final grade is reported.

d. Alphabetical grades of ABF, WF and DB will be counted as numeric grades of 1 in the computation of the common GPA. Faculties are, however, strongly encouraged to compute a numerical grade based on the student's total work even when the student misses the final examination.

e. Alphabetic grade of W (withdrawal) are excluded from the computation of the GPA on the transcript.

f. Grades of Credit – No credit and Pass-Fail are not included in the computation of the common GPA.

g. The common GPA is rounded to the nearest decimal place using standard rounding rules – that isit should be rounded up with a value of 5 or greater in the first non-significant place.

Note: Faculties may use a variety of different averages for various decisions regarding academic standing, promotions and graduation, as long as these have been approved by General Faculties Council. Such averages are descriptively labelled with titles other than Grade Point Average, for example, Promotion Average, Graduation Average.

(6) **Aegrotat Standing**

Aegrotat standing may be granted, in special circumstances, on the grounds of illness to deserving students who have completed at least one year at the University of Alberta in the faculty in which they are currently registered. Any student wishing to take advantage of this privilege should apply without delay to the Dean of the faculty concerned. Any other student absent from a final examination because of illness may apply for permission to write the regular deferred examination.

(7) **Competence in Written Work**

General Faculties Council urges all instructors of University under graduate courses to provide that suitable portions of course testing or other course work should be in the form of written essay responses and to emphasize to students that competence in written work is integral to competence in a subject and will constitute part of the basis on which the student's course grade is determined.

All instructors should make clear at the outset of each course their expectations in regard to the standard and importance of writing in assignments and examinations.

(8) **Approval of Grades**

Student grades are unofficial until they have been approved by the appropriate Faculty Council at the end of the session. Prior to approval by Faculty Council unofficial grades are reported on transcripts and so noted. Students can generally expect that official grades will be available in early June for the Winter Session, mid-September for the Intersession. A Statement of Results is mailed to students following the approval of grades for each session.

EXAMINATIONS

The following regulations apply to **term examinations:**

(1) **Term examinations optional.** The holding of term examinations is optional with each department.

(2) **Absence from term examination or test.** If a student has an unexcused absence from a term examination or test, the raw score assigned will be zero. However, in case of illness or other extreme circumstance the student may be excused from writing the examination or test. In applying for exemption students must present to their instructor an absence slip signed by a University Health Service physician where the cause is illness, or by the Registrar where the cause is other than illness. When exemption is granted the percentage weight allotted to the examination or test missed is added to the percentage weight allotted to the final examination.

The following regulations apply to **final examinations:**

(1) **Final examinations.** A final examination is held in each course except where departure from this arrangement has been authorized by the faculty council governing the department offering the course. A weight of not less than 30% and not more than 70% will be assigned to the final. The remaining weight for the course will be assigned to the term work.

(2) **Absence from final examinations.** Any student who is ill or suffering from severe domestic affliction is advised not to sit for a final examination. A student who has missed a final examination because of illness or domestic affliction or who is obliged to be absent from an examination for some other compelling reason (including religious convictions) may apply for a deferred final examination. Documentation pertaining to such an absence must be submitted to the Registrar within 48 hours, following the examination period or periods for the course or courses effected. Similar action should be taken by any student, who, because of religious convictions or for other cogent reasons, is unable to write a final examination at the scheduled time. Such application will be referred to the student's Dean for a final decision.

When a student is absent from a final examination without acceptable excuse, a final grade may be computed using a raw score of zero for the final examination.

(3) **Cancellation of paper during examination.** Students who become ill or receive word of domestic affliction during the course of an examination, should report at once to the Supervisor, hand in their unfinished paper, and request that it be cancelled. Thereafter, if illness is the cause, they must go directly to the University Health Service so that any subsequent application for a deferred examination may be supported by a medical certificate. The Registrar must be notified in writing of the circumstances within 48 hours of the examination.

(4) **No subsequent cancellation of papers.** Should a student write an examination, hand in his or her paper for marking, and later report extenuating circumstances to support a request for cancellation of his or her paper and for another examination, such request will not be entertained.

(5) **Debarment from final examination.** A student may be refused permission to write the final examination in a course, on the recommendation of the department concerned and with the concurrence of the Dean of his or her faculty, in the following circumstances:

a. The student has neglected to do a substantial portion of his or her written assignments in a course of which these are an essential feature, or has attended insufficiently in a course in which class participation is a necessity.

b. The student has neglected to do a sufficient amount of the practical or laboratory work in a course in which these are considered a basic requirement.

(6) **Failure in Spring Term Course.** Students who have failed the first half-course in a two half-course sequence, may not proceed to the second half-course, unless their faculty has ruled otherwise.

(7) **Release of Final Examination Papers.** Departments subscribing to the belief that there is educational value in permitting students to see their final examination papers after they have been marked, may arrange for this to be done. However, papers should not actually be released to students until the deadline for applications for reappraisal has passed, as an appeal cannot be entertained after the custody of the paper has been relinquished to the student.

The following regulations refer to the **notification of results:**

(1) **Reappraisals.** Since great care is taken in marking final examination papers, a student should apply for reappraisal of a paper only if he or she has good reason to believe that a mistake has been made. Reappraisals are dealt with by the chairman of the department in consultation with members of the staff. A request for reappraisal must be made by letter to the Registrar (or by completion of an application form in the Schedules Division/Examinations and Timetabling, Registar' Office, Room 120, Administration Building) within thirty days of the publication of results for courses offered in the Intersession. The request must include a statement of whether the intent of the appeal is to raise or lower the grade. If a student fails to include such a statement it will be assumed that the intent is to have the grade raised. The request must be accompanied by a fee of $25.00 for each paper; the fee will be refunded if the appeal is successful.

The privilege of having a paper re-appraised applies only to final examinations.

The reappraisal privilege is limited to two papers for the Intersession.

It should be understood that if the grade is changed, the new grade, whether higher or lower than the original, replaces it as the student's official grade in the course.

The following regulations apply to **re-examinations**:

Supplemental Examinations have been abolished at the University of Alberta. Faculties have established criteria whereby undergraduate students in special circumstances may be permitted re-examination. Students should consult their faculty section of the University of Alberta composite calendar for details.

(1) Students wishing to apply for a re-examination should:

a. ensure that they meet the eligibilty criteria for re-examination in both the faculty offering the course and the faculty in which they are enrolled.

b. complete an application form (available at Examinations and Timetabling, Schedules Division, Office of the Registrar, Room 120 Administration Building). Students are advised to apply early, in order to obtain the necessary approvals. Students in the faculties of Dentistry, Law or Medicine should consult their faculties.

c. have the application for re-examination approved by the chairman of the department offering the course.

Departmental approval indicates that a paper can be set *subject to* approval by the Dean of the student's faculty.

d. have the application for re-examination approved by the Dean of their faculty.

Students are advised that it may not be possible for the Dean to make a ruling until all grades are recorded for the session. In this case, the form should be left with the faculty office for a later ruling.

(2) If immediate approval is given, the student should return the approved application and fee to the Access Centre, Office of the Registrar, Administration Building.

Otherwise, when a ruling is made, the Dean's office will send the form to Examinations and Timetabling who will advise the student and request appropriate fee payments where necessary.

Once approval has been granted, re-examinations are to be written as follows, except for students in the Faculties of Dentistry, Law or Medicine, who will be re-examined at a time determined by their faculties.

Re-examinations are to be written at a time and place agreed upon by the instructor and students concerned.

If a student has been granted a re-examination in a Spring Term course and it is not possible to reach mutual agreement as to the date of writing, then the student should advise the Examinations and Timetabling Office so that the examination can be scheduled during the regular re-examination period, August 6-10, 1991. An examination timetable will be mailed in late July to those who apply to write a re-examination in August.

If a student has been granted a re-examination in a Summer Term course the examination should be written as soon as possible after the end of the term at a time and place mutually agreeable to the student and instructor. If agreement is not possible, the examination will be scheduled on the special re-examination and deferred final examination day in September.

(3) A special re-examination may be granted to a student who is prevented by illness, domestic affliction, or other extreme circumstance from writing at the regular time, if approved by the Dean concerned.

Application with supporting documentation must be made to the Registrar three weeks before the special examination is to be written, and must be accompanied by the prescribed fee. Special examinations are normally written at the University of Alberta on the first Saturday following Labor Day in September.

(4) Applicants should consult §262.4 for fee information

The following regulations apply to **deferred final examinations:**

(1) **Deferred final examinations.** A student who has missed a final examination because of illness or domestic affliction or who is obliged to be absent from an examination for some other compelling reason (including religious convictions) may apply for a deferred final examination. Students wishing to apply for such an examination must:

a. complete an application form (available at Examinations and Timetabling, Schedules Division, Office of the Registrar, Room 120, Administration Building). The application must be supported by a satisfactory medical certificate in the case of illness or other documentation substantiating the reason for an absence. The application and the documentation pertaining to the absence must be presented to the Registrar within two working days following the examination period or as soon as the student is able having regard to the circumstances underlying the absence;
b. have the application for a deferred final approved by the Dean of their faculty;
c. have the application for a deferred final signed by the instructor (or the department chairman, or designate, if the instructor is not available); and
d. return the approved application to the Registrar (Examinations and Timetabling, Schedules Division, Room 120, Administration Building), within two working days of initiating the application. The approved application must be accompanied by the prescribed fee.

(2) Any student who is granted a deferred final examination in a Spring Term course by his or her Dean may write that examination as soon as possible after the end of the term at a time and place mutually agreeable to the student and to the instructor and to any other students in the course requesting the same privilege. If agreement is not possible, the examination will be scheduled during the regular re-examination and deferred final examination period in August.

Any student who is granted a deferred examination in a Summer Term course by his or her Dean may write that examination as soon as possible after the end of the term at a time and place mutually agreeable to the student and to the instructor and to any other students in the course requesting the same privilege. If agreement is not possible, the examination will be scheduled on the special re-examination and deferred final examination day in September.

In order to ensure that applications for the writing of deferred examinations for the students attending in the Intersession are received in time to be processed, students are advised to submit their application to the Registrar's Office as the necessity arises and not to wait until they receive their statement of results.

The following regulation applies to **Special Examinations:**

A special re-examination or a special deferred final examination may be granted to a student who is prevented by illness (attested by a physician), domestic affliction, or other extreme circumstance from writing a re-examination or a deferred final examination at the regular time in August. Application must be made to the Schedules Division, Office of the Registrar, Room 120, Administration Building, three weeks before the special examination is to be written, and must be accompanied by the prescribed fee. Special examinations are normally written on the Saturday following Labor Day. In certain approved cases they may be written during the regular examination periods in April, May, August, or September.

APPEALS AND GRIEVANCES

General Faculties Council (GFC) has instructed each faculty to publish in the Calendar the regulations which affect a student's academic standing, a notice that such decisions are appealable and information as to where the faculty-level appeal regulations may be obtained.

In addition, GFC has established an Academic Appeals Committee and has delegated to it authority to hear appeals from students against faculty decisions which affect their academic standing. An appeal may be made only on the basis that there has been a miscarriage of justice.

Students must exhaust the provisions for appeal within their own faculty before taking an appeal to the GFC Academic Appeals Committee.

The GFC Academic Appeals Committee is not authorized to hear an appeal from a decision respecting a mark or grade in an individual course, from an examination decision made in the Faculty of Graduate Studies and Research, from a decision to refuse admission to a faculty, or a decision relating to credit for courses taken or to be taken outside the University of Alberta.

For further information regarding appeal procedures at the faculty level students should seek the advice of their Dean. Students who have been unsuccessful in appealing at the faculty level and who wish to appeal to the GFC Academic Appeals Committee should consult the Secretary to General Faculties Council in order to learn the procedures to be followed.

If students are unsure of the validity of their grievance or procedures of appeal they should contact the Student Adviser in the Office of the Dean of Student Services.

GRIEVANCES CONCERNING GRADES

The assignment of marks and grades is the initial responsibility of a course instructor. Any grievances concerning grades should first be discussed with the instructor. If the problem is not resolved, the student is encouraged to talk with the Chairman of the department where the course is taught, and then with the Dean.

This informal process is meant to precede and to avoid formal appeal, but does not preclude formal appeal to the Faculty Council.

If students are unsure of the validity of their grievance or procedures for appeal, they should contact the Student Adviser in the Office of the Dean of Student Services.

262.6 Academic Standing

ACADEMIC STANDING

The term "academic standing" comprises matters such as transfers from one program to another within a faculty, continuation in a new program, graduation and the requirement for a student to withdraw. Unless stated otherwise, changes to academic standing regulations affect new students, continuing students, and students readmitted to a program or faculty. Students should refer annually to the Calendar for the academic standing regulations governing their degree programs.

FIRST-CLASS STANDING

First-class standing in a given year shall be awarded to any student who obtains a grade-point average of not less than 7.5 while enrolled in a full normal academic course load in that year; the definition of a full normal academic course load shall be left to the faculty concerned.

DEGREES WITH HONORS

A student in the Faculty of Arts or of Science with approved qualifications may proceed to the degree of Bachelor of Arts or Bachelor of Science with Honors by following a more concentrated course of study in a special field under the supervision of one of the departments. The time required for an honors degree is four years from senior matriculation.

Degrees with Honors are awarded in two classes: First Class Honors, and Honors, in accordance with the requirements of the faculty and department concerned.

DEGREES WITH DISTINCTION

At the discretion of the faculty concerned the notation "With Distinction" is inscribed on the permanent record and graduation parchment of a candidate for any degree, except an honors or graduate degree, if the candidate has obtained a grade-point average of 7.5 or higher over the last two years of their program. In the cases of the BA (Special) and BA (Canadian Studies), degrees with distinction shall be awarded to students who achieve a grade-point average of 7.5 or higher over all courses completed after the first five full course equivalents. (Courses declared extra-to-the-degree at the time of registration will not be used in the calculation.) In the BFA and BMus programs, the candidate is required to carry a full course load in each of the last two years. Students who have taken part of their work at another university may be granted adegree "With Distinction" at the discretion of the faculty concerned.

PROMOTION

Promotion regulations are set by the faculties of the University. Details will be found in the Faculty Regulations Section of the appropriate university calendar.

UNSATISFACTORY STANDING

(1) Students who have been admitted to the University with a weak matriculation record may be warned of the fact at the beginning of their first session.

(2) The records of all students are reviewed at the end of each session. Students whose records are found to be unsatisfactory will be notified by their Dean and may be referred to the Student Counselling Services for counselling. They may be denied the privilege of writing supplemental examinations and required to repeat their year. Students whose records are extremely unsatisfactory may be required to withdraw from the University, and normally at least a year must elapse before re-admission to the University will be considered.

(3) Students who have been required to withdraw must apply for re-admission to the Dean of the faculty in which they propose to register. The Dean may require a student to undergo counselling as a part of the process for obtaining re-admission. Students seeking re-admission must report their intentions by letter to the Dean not later than mid-June of the year in which re-admission is sought. The letter should include an explanation of their previous difficulties and indicate why the applicants believe that they may now be successful.

(4) Students with an extremely unsatisfactory record at another university will not be considered for admission to the University of Alberta until at least a year has elapsed from the date of leaving their former university. Thereafter, the procedure outlined in (3) will apply.

262.7 Student Records

STUDENT RESPONSIBILITY

Students are responsible for ensuring the accuracy and completeness of their official record at the end of each session that they attend by verifying their Statement of Results and the copy of their transcript provided during Winter Session registration and at convocation. Students should be aware that only the official transcript is retained permanently and that source documentation (the student file in the Registrar's Office) is destroyed *seven years* after the last registration. Queries regarding errors or omissions on the official transcript must be made as soon as possible, and will not be considered after the source documentation has been destroyed.

UNIVERSITY TRANSCRIPTS

(1) The only official academic record for each student is the Official University Transcript issued by the Office of the Registrar.

(2) The University of Alberta transcript includes the following information for each student record:

a. student name
b. student previous name(s)
c. student I.D. number
d. student birthdate
e. date of issue of transcript
f. degrees and awards granted
g. admission status and basis of admission
h. credit granted from other institutions or programs
i. faculty and degree program of registration
j. course information, including for each course:
session and term, course name, number, title, grade, course, weight, course units (Engineering students), grade points, hours of instruction index, class average and class enrolment
k. total weights and grade points used to calculate GPA
l. grade point average calculation
m. comments pertaining to academic standing in program
n. withdrawal date, if appropriate
o. disciplinary record of suspension or expulsion, if appropriate

(3) For further information regarding grades or GPA, refer to § 262.5 Academic Relations — Evaluation Procedures and Grading System.

(4) **Course Weight**: Course weight is assigned for the purpose of calculating a weighted (grade point) average. Normally a full course carries a weight of 6.0.

(5) **Course Hours of Instruction Index**: The Hours of Instruction Index is a weighted value based on the number of instruction hours per week as follows: total hours per week of lecture plus half the hours per week of all other types of instruction.

(6) **Units**: Units are used only for students in undergraduate programs in the Faculty of Engineering. Units are normally calculated in the same manner as the Hours of Instruction Index.

(7) **Grade Points**: Grade points are calculated by multiplying the course grade by the course weight, or the course grade by the course unit value for undergraduate Engineering students. Grades, weights and grade points not used in the calculation of the GPA are so indicated by brackets on the transcript.

COURSE REGISTRATION DEADLINES IMPLICATIONS FOR RECORDS

(1) Undergraduate students have until the second day of classes of the term in which to make changes to their registration without penalty. Courses dropped during this period are deleted entirely from a student's record.

Course withdrawals following this period and up to the **last day for withdrawing from courses for that term** result in a grade of W (withdrew) being recorded on a student's record. Grades of W are not included in the calculation of the Grade Point Average (GPA).

(2) Courses which are dropped following the deadline of the last day for withdrawing from courses for that term result in a grade WF (withdrew failing) being assigned for the course(s) by the student's faculty. Grades of WF are counted as numeric grades of 1 in the computation of the GPA on the transcript.

(3) Pass/fail (credit/no credit) courses which are dropped following the deadline for the last day of withdrawing from courses for that term, result in a grade of F(fail) being assigned for the courses(s) by the students's faculty. Grades of F are not included in the calculation of the GPA.

(4) When a student withdraws from one or more courses after the second day of classes, fees will be reassessed on a per course basis with the fee for each dropped course prorated to the date of withdrawal.

(5) §261 Academic Schedule of this Calendar contains the specific dates for the change of registration and course withdrawal dates noted above.

RELEASE OF STUDENT RECORDS

(1) Official transcripts of a student's academic record are issued by the Office of the Registrar upon written request of the student.Transcript request forms are available at the Student Access Centre, main floor, Administration Building. Transcripts are issued to the student personally or to whomever the student designates. Transcript fees are payable when the request is made. An official transcript bears the original signature of an authorized member of the Registrar's staff and the official seal of the University imprinted over the signature.

(2) Unofficial copies of the student's academic record are issued in the form of a sessional Statement of Results to the student, the student's Dean, and the Chairman of the Department or designee, in the case of a student registered in a specialized, honors or graduate program. An unofficial transcript or copy of the student's academic record bears neither an original signature nor the University seal.

(3) Unofficial copies of students' academic records may be issued to the following at their request: the Dean of a faculty to which a student wishes to transfer; Student Counselling Services, when a student has been referred for counselling by an authorized officer of the University; and the Student Awards Office, where an award made through a University scholarship committee is involved, on the understanding that information regarding the student's academic record will not be furnished to the scholarship donor without the student's consent.

(4) Unofficial copies may be issued at the student's request to other offices or individuals in the University.

(5) Public information regarding students, such as dates of attendance, place and date of birth, city and home address, verification of degree or degrees may be issued at the discretion of the authorized officer of the University to educational institutions, appropriate government agencies, prospective employers, and scholarship donors.

(6) Academic and disciplinary records are separate. The only disciplinary action that will be documented on a student's academic record is one involving the student's suspension or expulsion from the University. There is to be only one official disciplinary record. Prior to January , 1974 disciplinary records were kept by the Dean's Council. Since that date they have been kept in the custody of the Student Discipline Officer, who is responsible for implementing University disciplinary procedures, and who reports to the General Faculties Council (GFC). The only persons having access to such records will be those directly concerned with the action.

(7) Where access to academic records is sought for the purpose of statisitical research, such access may be granted by the Executive Committee of General Faculties Council on such terms as may be necessary to ensure the confidentiality of individual student records. Research on student data will be defined as not being within the normal administrative operation of the University. In case of doubt as to what may fall within "the normal administrative operation of the University", the GFC Executive Committee will decide.

(8) Where information is sought for the purpose of biographical research, it may be released at the discretion of the Registrar, subject to the following conditions; (i) for records less than 50 years old, the researcher must provide a release from the student or estate, or receive permission to obtain the information from the Executive Committee of GFC; (ii) for records more than 50 years old the Registrar will, at his discretion, provide the information; (iii) the researcher will not be permitted direct access to records, but must submit requests for specific information; (iv) decisions made by the Registrar may be appealed to the Executive Committee of GFC.

EXCEPTIONS TO STATED POLICY

Students who object to the release of information regarding their academic record, in accordance with the policy stated above, should notify the Registrar in writing, giving their specific objection. Appropriate action will be taken by the Registrar and the student will be advised.

WITHHOLDING OF UNIVERSITY DOCUMENTS

In any case where a student has neglected or refused to pay amounts owed to the University, the Registrar has been empowered and directed by the Board of Governors to withhold registration materials, student examination results or other indicators of academic attainment, until the student has settled the account with the University. For example, registration materials and certification with respect to the student's academic attainment may be withheld if the student owes the University for library penalties or fines; for purchases at the University Bookstore; for parking or traffic violations; for breakage or damage to laboratory facilities or supplies; for student fees and University of Alberta Emergency Student Loans; for room and board fees; for fees for re-examination or deferred final examinations; or, for fines imposed by the Discipline, Interpretation, and Enforcement Board, or other University disciplinary panels and boards.

263 Code of Student Behavior: Conduct and Discipline

This information is contained in full in the University Calendar (Section 19). It is the responsibility of each student to be familiar with, and adhere to, the terms of the Code of Student Behavior.

Students who wish to receive a copy of the Code may do so by contacting the Special Sessions Office or the Office of the Registrar.

264 Student Services

DEAN OF STUDENT SERVICES

The Dean of Student Services is the senior administrator in charge of administrative units working in the area of student services. These include the Office of the Dean of Student Services, the Office of Native Student Services, the International Centre, Counselling Services, Health Services, Disabled Student Services, Career and Placement Services, and the Student Awards Office.

The Dean chairs the Council on Student Services which is comprised of representatives from various service units on campus, the university administration, and the student body. The Council functions to ensure cooperation and coordination between all aspects of student services and as a forum in which any matter affecting students can be considered and recommendations made to the appropriate university authorities.

OFFICE OF THE DEAN OF STUDENT SERVICES

The office offers a number of services. It provides grievance advisory services to assist students with academic concerns. It handles club registrations and monitors and administers university liquor regulations.

STUDENT AWARDS OFFICE

Located at 252 Athabasca Hall, the Student Awards Office administers University of Alberta awards at the matriculation, undergraduate, and graduate level as well as small emergency loan fund intended to provide interim funding for students whose Alberta Student Finance Board disbursments have been unexpectantly delayed. The Office also houses a Graduate Resource Centre which provides information on graduate scholarships at other Universities around the world.

Financial Assistance. Undergraduate students enrolled in Intersession may apply for a loan based on financial need. Applicants must be enrolled in the Intersession in one or more courses leading towards the degree for which they are registered. Applicants must be bondafide residents of Alberta.

Inquires should be directed to the Students' Finance Board, c/o The Provincial Department of Advanced Education.

STUDENT COUNSELLING SERVICES

Counselling is offered on a confidential basis to students and prospective students throughout the year. There are minimal fees for vocational testing and study skills, but no charge for other services. Students wishing to see a counsellor are advised to arrange an appointment in advance.

Although counselling regarding vocational and faculty choice is available to prospective students during or after completion of their Grade XII year, concerns with selection of individual courses or options should be directed to the Dean of the Faculty in which the student intends to register.

University students may use Counselling services for any of the purposes indicated below:

(1) Study Skills. Study skills assistance may be provided through a combination of individual and / or group counselling.

(2) Vocational planning. A counsellor may be consulted about future plans, including professional training. Tests and other means of vocational assessments are available when deemed appropriate by the counsellor.

(3) Personal problems. Sometimes when a student's performance suffers because of worry, restlessness, inability to concentrate, or preoccupation with personal problems. In such circumstances personal counselling is advised.

(4) Unsatisfactory standing. Students with academic standing labeled "unsatisfactory" are advised but not required to see a counsellor before continuing their programs, while those labeled "extremely unsatisfactory", may, in some cases, be required to see a counsellor before readmission is considered.

For futher information or to arrange an appointment, telephone 492-5205 weekdays between 8:00 a.m., May 1 through August 31; and between 8:30 a.m. and 4:30 p.m.; September 1 through April 30, or write Student Counselling Services, 102 Athabasca Hall, University of Alberta, Edmonton, Alberta T6G 2E8.

OFFICE OF NATIVE STUDENT SERVICES

The Office of Native Student Services serves both the University and the wider community. First, it is a student service which is complementary to counselling, remediation and other student services within the University. The office provides an orientation for new students and is a primary resource for the Native Student Organization, which maintains a meeting room and study room connected to the office. As administrators of the Native Student Development Fund, the office reviews applications for small bursaries and emergency loans, and awards bursaries and prizes based on academic achievement. The office assists students in all aspects of university life. Its main function is to make the University more accessible to Native students. Its main function is to make the University's information services and academic services available to the Native sector of Alberta's population.

Enquires are welcome at the Office of Native Student Services, 124 Athabasca Hall, The University of Alberta, Edmonton. T6G 2E8 (telephone 492-5677).

INTERNATIONAL CENTRE

The International Centre is the unit within Student Services responsible for:

Services

A major purpose of the Centre is to provide information and asistance to foreign students so that they will adjust to their new culture and achieve their educational goals. The Centre offers oreintation and re-entry workshops, administers an emergency loan fund and a bursary fund, assists CIDA, Commonwealth and other scholars, provides information on Canada Immigration matters, provides advising on concerns ranging from the personal (specific) to the academic (general), offers administrative assistance including providing official letters to banks, families and sponsors, and conducts referral, liasion, advocacy and research regarding foreign students and the issues that concern them.

Programs

Through programs offered by the Centre, the University community has the opportunity to interact with students from other countries. A major thrust of programs if to promote international students as "living resources" on campus and to increase the level of global understanding by exploring issues in development. Programs range from the daily lunchtime "Passport to the World" program (Winter Session) to the comprehensive Family Life Program, which meets the needs of foreign students and their families.

Study Abroad/Exchange

The Centre offers a study abroad/exchanges program enabling Canadian students to gain valuble experience overseas while attending the University of Alberta. The program includes the administration of several academic student exchanges with institutions overseas, the annual Overseas Options Week in October, and Overseas Opportunities Room containing information on study/work and volunteer opportunities overseas as well as workshops and advising sessions throughout the year.

The Centre has several publications, including a newsletter (10 issues/year) Foreign Student Handbook, and Guide to International Exchanges. The Centre is open Monday - Thursday from 8:30 - 10:00 pm (on days classes are held) and until 4:30 pm on Fridays throughout the Winter Session, 8:00 am - 4:00 pm throughout the Intersession.

DISABLED STUDENT SERVICES

Students with physical, sensory or learning disabilities are invited to contact the Office of Disabled Student Services, Room 300, Athabasca Hall, 492-3881 (voice or TDD) or 492-7269 (TDD only) for information or assistance. The Office coordinates the efforts of various University departments and off-campus agencies in meeting the special needs of students with disabilities and provides services relevant to program access and participation in campus life. A wide variety of services are available including: orientation to the university; program planning; sign language interpretation arrangements; and financial and personal advising.

Through an extensive Volunteer Program, the Office also offers the following kinds of volunteer assistance: exam writing, taping of readings, escort or study help, tutoring, library research help, mobility assistance and special project help.

A Disabled Student Handbook, campus accessibility map, tactile map for the campus (for the blind), and specialized aids and equipment are available for student use.

The Office is the contact point for students sponsored by the Alberta government's Vocational Rehabilitation for Disabled Persons (VRDP) program.

Early contact by those considering attending the University of Alberta or by those admitted will assure easier transition to the university.

UNIVERSITY HEALTH SERVICES

Comprehensive medical care is provided throughout the year by the University Health Service. A fee is assessed to cover in part, pharmaceutical and other ancillary services not paid for by the Alberta Health Care Insurance Commission. Fully qualified medical and nursing personnel staff the Health Services which is located on the corner of 111 Street and 88 Avenue, immediately south of the Law Centre. Details of the range of services provided may be obtained by contacting the Nursing Supervisor at 492-2612.

HOUSING AND FOOD SERVICES

The Department of Housing and Food Services recognizes student housing as an important part of the University experience, and is pleased to offer you convenient, comfortable, on-campus housing while you attend the Intersession. Pembina Hall and the Lister Residence are our furnished residences, and are available for the Intersession or short-term accommodation. If you will be staying with us for the whole summer, you might want to consider one of our unfurnished residences, Garneau, Hub Internation, or Michener Park, which are leased on a monthly basis. Application forms may be obtained from the Housing and Fod Service's Office, 44 Lister Hall, University of Alberta, Edmonton, Alberta T6G 2H6, or by calling us at 492-4281.

Pembina Hall: Pembina offers a relaxed and quiet study atmosphere, for the whole summer or just a night or two. Constructed in 1914, Pembina is one of the University's original residences, located in the heart of the campus and surrounded by well-kept lawns and trees. The Central Academic Building Students' Union Building, and HUB Mall are all close by. Dining facilities are available in Lister Hall and CAB, as there are no cooking facilities in the study bedrooms. Each floor does feature a small kitchenette and communal lounge for your use. All rooms are fully furnished singles, and linen (except towels) is provided. Coin-operated laundry facilities are located in the residence.

Lister Residence: The Lister Residence is also right on campus, and consists of three high-rise tower overlooking south-central Edmonton. Single accommodation is available on a room and board basis. The study bedrooms are fully furnished, and Lister provides many amenities; steam room. weight room, tennis courts, colour televisions in the lounges, piano and music practice rooms, tanning beds, and study rooms. Dining facilities are located right in the residence, or at various food service outlets across campus. Students must provide their own bed linen and towels, and coin-operated washers and dryers are located on each floor.

Garneau: Garneau is one of Edmonton's finest old neighborhoods, located just east of campus next to the Law Centre. The Garneau Residence is made up of a variety of apartments and houses which are leased on a month-to-month basis. A coin-operated central laundry facility is available to all students living in the residence.

The Garneau apartments are attractive, modern walk-ups, constructed as residences for Universiade '83 (the World University Games). Most of these one, two and four-bedroom unfurnished units features, spacious balconies for suntanning and relaxing, and are equipped with a refrigerator, stove and security intercom system. Bicycle storage space is available.

The Garneau houses are unique in design, ranging in size from cozy one and two-bedroom units to spacious four and six-bedrooms communal houses. All are equipped with a refrigerator and stove, and utilities are included in the rent.

HUB International: HUB is one of the most unusual housing complexes in North America. An international gathering place, HUB offers opportunities to meet students from as far away as Hong Kong, Lebanon and Kenya. Students overlook a self-contained mall with a wide variety of restaurants shops, and services, inlcuding a dry cleaner, laundromat, and hair stylist. The mall is conveniently joined by covered skywalks to the Rutherford Library, Humanities Center, and the Fine Arts, Law, and Business buildings. Unfurnished bachelor, one, two or four-bedroom units are available on a month-to-month basis.

Michener Park: Michener Park is a quiet community six kilometers south of the main campus, designed for couples with or with children. For families, two-bedroom apartments with balconies on the upper floors and patios at ground level are available, or two and three-bedroom row houses with sem-private yards opening onto landscaped courtyards. Couples without children may chose between Vanier House, a 14 story high-rise featuring unique bi-level one-bedroom apartments, and Galbraith House, a 21 story tower of two-bedroom apartments. All units are available on a monthly only.

Furnishing include refrigerator, stove, drapes, and living room carpeting. Free laundry is also available at a central location, and utilities are included with your rent. Michener Park provides playgrounds, day-care, a babysitting co-op, and computer room on-line to the mainframe University of Alberta academic computer system. The Park is close to shoppi ng, the University of Alberta Tennis Centre, and excellent bus routes to the University and downtown.

Food Services: During the Intersession, food service is available at Lister Hall, CAB, and a various convenient lunchrooms in academic buildings across campus.

Parking: Arrangements for parking at Lister Residence may be made at the Front Desk when you arrive. At Michener Park, a permit must be obtained from the Housing and Food Services' office. For parking at any other residence, please contact Parking Services at 492-3811.

Other:

1. **Off-Campus Housing** information is available at the Housing Registry in Room #150. Students' Union Building. The Housig Registry compiles lists of available houses, apartments, suites, and rooms throughout Edmonton, and provide information on subsidized housing and qualifying guidelines. A custom computer printout of available units is provided, and students are responsible for contacting landlords directly. For more information, call 492-6207.
2. **St. Joseph's College Residence** offers a limited number of rooms for men and women during the Intersession. For more information please write to the St. Joseph's College, University of Alberta, T6G 2J5, or call **492-7681.**

CAREER AND PLACEMENT SERVICES (CAPS)

The University, with the assistance of Employment and Immigration Canada and the Students' Union, maintains a full-time career advising and student placement service on campus on a year-round basis. Students at all levels of their studies are invited to use the facilities of this Office whether they are seeking part-time, summer or permanent employment. CAPS provides:

(1) On-campus recruitment
(2) Resumé writing, job interview and job search workshops
(3) Job selection and referral
(4) Career advising and employment counselling
(5) Career Resource Library
(6) National job marketing information bank

To take advantage of services offered, all students seeking assistance in finding employment are urged to contact the Office, preferably early in the school year.

Career and Placement Services is located on the 4th floor of the Students' Union Building (telephone 492-4291).

CAMPUS RECREATION

During the Intersession, through the cooperation of the Faculty of Physical Education and Recreation and the Students' Union, the Campus Recreation Wing of the Department of Athletic Services organizes and administers well balanced programs of recreational activities. The Intersession Recreation Program offers students a wide variety of instruction, tournament and league play and also the use of facilities for casual (non-structured) recreation. Co-ed basketball, slow pitch, soccer, and volleyball league play, are yearly favorites. The Instructional Program offers extensive activities including golf, 3 levels of tennis, squash, dance and weight training. In addition physical fitness programs are available to students for a nominal fee. Casual recreation is also provided in the following facilities: Universiade Pavilion, 3 gymnasiums, 2 swimming pools, ice arena, 7 squash, 7 racquetball, and handball courts, weight training room, sauna, outdoor playing fields, and tennis courts. Lockers and towel service will also be provided during the sessions for a "nominal charge".

Further information may be obtained from the Campus Recreation Office (Room W108, Physical Education and Recreation Centre) between 9:30 a.m. - 12:00 p.m. and 1:00 p.m. - 4:00 p.m.

BOOKSTORE

The University maintains a large and modern bookstore in the Students' Union Building, where prescribed textbooks and supplies of all kinds may be purchased. The Bookstore also stocks a wide range of other items of special interest to students and faculty. Information concerning textbooks for the Intersession can be obtained from the Bookstore. Students are advised to order textbooks as soon as possible. Failure to do so may result in their being unable to obtain prompt delivery at a later date owing to textbooks being temporarily out of stock.

Textbooks may be returned as late as the week following the date of commencement of the course, provided that they are unmarked and are accompanied by the original sales slip or C.O.D. order. Textbooks purchased after this date will be non-returnable. Returns of textbooks resulting from withdrawal may be made after this date providing that the books are in an unmarked condition and the student requesting the refund has retained his sales slip, and in addition has obtained a copy of the withdrawal form. This request for return must be made within seven days of the withdrawal.

Mail orders will be accepted only on a C.O.D. basis. When ordering textbooks by mail from the Bookstore, please state the course name, course number, and section number.

PARKING REGULATIONS

No free parking is available within the boundaries of the campus. While parking facilities are available for all students who wish to park on campus during the Intersession, a permit must be obtained and affixed to the vehicle.

Specific information with respect to Intersession parking is printed at the back of this Calendar.

DAY CARE CENTRES

The Students' Union and Community Day Care Centre located in HUB (8917 - 112 Street) may have several openings for children of Intersession students from May/91 until September/91. The Centre operates from 7:15 a.m. to 5:15 p.m. Monday to Friday with mid-day meals provided. The staff are fully qualified to work with young children. Fees are based on family income. Interested students should contact the Day Care Centre at 492-2245.

The University and Community Day Care Centre operates in Windsor Park School, two blocks from campus (8720-118 Street). Applications will be accepted from the families of University of Alberta staff and students, and from families from the community in general. Interested parents should direct inquiries to the Director at 433-0070.

265 Intersession 1991

In 1991 the former, separate, Spring and Summer Sessions have been combined to form the **Intersession,** comprised of a Spring Term and a Summer Term. The purpose is to improve program planning and to provide a better integration of course offerings over the May to August period.

The other notable feature is that most 3-credit courses are now scheduled over the six-week period of the Spring Term or the Summer Term.

For 1991 the relevant dates are as follows:

Intersession 1991

Spring Term	Summer Term
May 6 - June 14	July 2 - August 9

265.1 Intersession Timetable Format

The Timetable which follows this section is integrated, combining the courses planned for the Spring and Summer Terms of the 1991 Intersession. Those courses scheduled for the complete Spring Term are referenced as **Spr: FULL** and those scheduled for the complete Summer Term as **Sum: FULL.** Exceptions are noted with specific dates.

The **Explanation of Timetable Columns** preceeding the **Timetable** provides an explanation of the various information included in the Timetable. A chart of **Building Abbvreviations** appears immediately preceeding the Timetable.

265.2 Registration

Continuing students may register by telephone according to the procedures outlined in the **Telephone Registration** section of the Calendar. No further admission or permission process is necessary with the exception of those specifically noted on certain courses in the Timetable or in the **Course Descriptions** section of the Calendar.

Students should ensure that their registration applies to the appropriate term as not all courses are offered in both terms.

Enrollment in some courses may be limited so students are encouraged to register as early as possible. Also, courses may be withdrawn for reasons of insufficient enrollment. Low enrollment sections in the Spring Term will be withdrawn on April 10, 1991 and those in the Summer Term on June 5, 1991.

For further information on registration refer to Section 262.3.

265.3 Admission

For the 1991 Intersession no new admissions are being accepted, with the exception of the Unclassified Student Program.

265.4 Re-admission of Former Students

See **Admission Procedures for Continuing and Former Students** in the **Admissions** section of this Calendar or contact:

Office of the Registrar, Admission Division, 2nd Floor Administration Building, University of Alberta, Edmonton, AB T6G 2M7, Phone: 492-3113 (General Information)
or visit
Student Access Centre, Office of the Registrar, Main Floor Administration Building.

265.5 Changes of Registration and Withdrawals

See the **Academic Schedule** and **Fees — Intersession** sections of this Calendar or contact:

Office of the Registrar, Admission Division, 2nd Floor Administration Building, University of Alberta, Edmonton, AB T6G 2M7, Phone: 492-3113 (General Information)
or visit
Student Access Centre, Office of the Registrar, Main Floor Administration Building.

265.6 Pre-session Study Requirements

Courses which require pre-session study are indicated in the Timetable. It is the student's responsibility to obtain the required pre-session study instructions by completing the form following the Timetable.

265.7 Time Conversion Table

The times shown in the Timetable are based on the 24-hour clock. The following conversion chart is provided for your convenience.

0100 am	0200 am	0300 am	0400 am	0500 am	0600 am
1	2	3	4	5	6
pm 1300	pm 1400	pm 1500	pm 1600	pm 1700	pm 1800

0700 am	0800 am	0900 am	1000 am	1100 am	1200 (noon)
7	8	9	10	11	12
pm 1900	pm 2000	pm 2100	pm 2200	pm 2300	(midnight) 2400

265.8 Final Examination Schedule

Spring Term Final Examination Schedule

	Classes Meeting at	Final Examination Conducted		
	TIME	**DAY**	**DATE**	**TIME**
3-credit courses scheduled over the six-week Spring Term	0730-0835	Friday	June 14	0730-0930
	0845-0950	Friday	June 14	1000-1200
	1000-1105	Friday	June 14	1330-1530
	1115-1220	Friday	June 14	1600-1800
	1330-1435	Friday	June 14	1900-2100
	1445-1550	Friday	June 14	2130-2330
6-credit courses scheduled over the six-week Spring Term	0730-0950	Friday	June 14	0900-1200
	1000-1220	Friday	June 14	1400-1700
	1330-1550	Friday	June 14	1900-2200

NOTE:
1. Courses that are scheduled over a period **other than the full six-week Spring Term** will have the final examination date, place, and time announced **on the first day of classes.**
2. Lectures are not normally held on the day of the final examination.

Summer Term Final Examination Schedule

	Classes Meeting at	Final Examination Conducted		
	TIME	**DAY**	**DATE**	**TIME**
3-credit courses scheduled over the six-week Summer Term	0730-0835	Friday	August 9	0730-0930
	0845-0950	Friday	August 9	1000-1200
	1000-1105	Friday	August 9	1330-1530
	1115-1220	Friday	August 9	1600-1800
	1330-1435	Friday	August 9	1900-2100
	1445-1550	Friday	August 9	2130-2330
6-credit courses scheduled over the six-week Summer Term	0730-0950	Friday	August 9	0900-1200
	1000-1220	Friday	August 9	1400-1700
	1330-1550	Friday	August 9	1900-2200

NOTE:
1. Courses that are scheduled over a period **other than the full six-week Summer Term** will have the final examination date, place, and time announced **on the first day of classes.**
2. Lectures are not normally held on the day of the final examination.

265.8 Special Programs

ANTHR 396 Archaeological Field Methods ★6 Much of data which archaeologists use to study past societies is obtained through the medium of site excavation. But excavation is a destructive process which requires a wide assortment of skills ranging from meticulous excavation techniques to managing large budgets with interpersonal relations. This course is designed to provide students with a foundation in basic archaeological methods including: excavation and recording techniques; site mapping, and; lab procedures. The course is six weeks long (May 21-June 28, 1991). The first and last weeks will be conducted in Edmonton at the University of Alberta.

LOCATION: For the 1991 field season, the field school will be excavating a site on Saskatoon Mountain, located just west of Grande Prairie. The site is estimated to be about 8,000 years old. The project is being conducted in association with the Archaeological Survey of Alberta. Arrangements are being made for accommodations at Grande Prairie College in Grande Prairie. Daily transportaion will be provided to and from the site.

TUITION AND FEES: In addition to the tuition and fees, students will be required to supply their own basic excavation kits (estimated cost $45.00), using a list of recommended equipment that will be provided as part of an information package upon acceptance into the course.

PREREQUISITE: An introductory anthropology or archaeology course and permission of the Department. The course is limited to an enrolment of 15 students and preference will be given to those students majoring in archaeology.

ROOM AND BOARD: Student should budget approximately $325.00 (rent and food) for the four week period in Grande Prairie.

CREDITS: One full course equivalent (equal to 26 weeks of instruction).

FOR FURTHER INFORMATION CONTACT:

Dr. Raymond Le Blanc
Department of Anthropology
13-15 HM Tory Building
Univesity of Alberta
Edmonton, AB T6G 2H4
Phone: (403) 492-5891

CLASSICS 475/476/602 Practical Methods in Classical Archaeology ★3 The techniques of excavation and recording in Classical Archaeology. Prerequisite: Consent of the Department.

(A) This course will be offered in Italy during the Summer Term only. It will be open to individuals with some background in Classics, Ancient History, Archaeology or Anthropology. It will be taught as a field school at the excavation site Roccagloriosa where the University is currently involved in active fieldwork and at Gravina di Puglia. Students taking the course will be trained in:

a) distinguishing and excavating archaeological strata;
b) recording the structures and materials found;
c) elementary on-site draftmanship;
d) classifying and cataloguing artifacts, especially pottery, in the excavation laboratory;
e) techniques of recovering animal and plant remains.

(B) A letter of permission will be needed by students applying from other universities to ensure that proper credit will be given. If not currently enrolled in another degree program, prospective students should apply for Special Student Status. The tuition will not be refunded except in cases of extreme distress.

(C) Audit privileges are not extended to students in this course. Students who do not wish credit may apply to the Dean of the Faculty of Arts for permission to register as Special Student and will pay the normal fee.

(D) This course will be withdrawn unless there is a minimum of 12 students enrolled by May 4. Registration is limited.

For additional information and confirmation of dates students may contact:

Heather Lenz or Kathy Crowell
Department of Classics
1-17 Humanities Centre
University of Alberta
Edmonton, AB T6G 2E5
Phone: (403) 492-2338

FRANC 110/113/114 Spring Term (May 20-June 29) Matane, Québec (Summer Language Bursary Program) Matane is a colorful, charming, and warm city nestled along the southern shore of the St. Lawrence River in the region of the Bas St-Laurent, at the gateway to Gaspé Park. Its citizens invite the participants to share their homes and their culture while studying French. The program will be highlighted during its last week when students are invited to participate in the "Festival de la crevette".

TUITION AND FEES:

$1,650.00 Participants should anticipate at least $500.00 for personal expenses and unforeseeable circumstances. Bursaries are available from:

Alberta Advanced Education
Official Languages Programs
Special Programs Branch
9th Floor, Devonian Building, East Tower
11160 Jasper Avenue
Edmonton, AB T5K 0L3
Phone: (403) 427-5538

ROOM AND BOARD:

To be provided by host families. Cost is included in fees.

CREDITS:

Upon completion of an entrance exam, each student may register in one of the following:

Français 110 Cours de français intermédiaire: niveau I ★6 Cours intensif: compréhension orale et écrite, usage créatif de la langue, acquisition des structures grammaticales de base. Prérequis: French 30 ou l'équivalent.

Français 113 Cours de français avancé: niveau I ★3 Étude et mise en pratique des points principaux de la morphologie et de la syntaxe du français. Travaux d'application oraux et écrits. Prérequis: French 30 ou l'équivalent.

Français 114 Cours de français avancé: niveau II ★3 Développement de l'expression orale et écrite. Étude approfondie de la syntaxe et de la morphologie du français. Travaux d'applicaiton. Prérequis: French 113.

For further information contact:

Michel Landry
Éducation permanente
Faculté Saint-Jean
University of Alberta
8404 rue Marie-Anne Gaboury (91 st)
Edmonton, AB T6C 4G9
Phone: (403) 468-1582

FRANC 110/113/114 Summer Term (July 1-August10, 1991) Nordegg, Alberta A six-week intensive program in which students will benefit from an immersion setting in the Rockies.

ELIGIBILITY:

Students must: have completed the equivalent of French 30; be interested in outdoor programs; have camping experience, and; be in excellent physical condition.

TUITION AND FEES:

$1,650.00 Participants should anticipate at least $500.00 for personal expenses and unforeseeable circumstances. Bursaries are available from:

Alberta Advanced Education
Official Languages Programs
Special Programs Branch
9th Floor, Devonian Building, East Tower
11160 Jasper Avenue
Edmonton, AB T5K 0L3
Phone: (403) 427-5538

ROOM AND BOARD:

Provided by the Goldeye Centre. Cost is included in fees.

CREDITS:

Upon completion of an entrance exam, each student may register in one of the following:

Français 110 Cours de français intermédiaire: niveau I ★6 Cours intensif: compréhension orale et écrite, usage créatif de la langue, acquisition des structures grammaticales de base. Prérequis: French 30 ou l'équivalent.

Français 113 Cours de français avancé: niveau I ★3 Étude et mise en pratique des points principaux de la morphologie et de la syntaxe du français. Travaux d'application oraux et écrits. Prérequis: French 30 ou l'équivalent.

Français 114 Cours de français avancé: niveau II ★3 Développement de l'expression orale et écrite. Étude approfondie dè la syntaxe et de la morphologie du français. Travaux d'applicaiton. Prérequis: French 113.

For further information contact:

Michel Landry
Éducation permanente
Faculté Saint-Jean
University of Alberta
8404 rue Marie-Anne Gaboury (91 st)
Edmonton, AB T6C 4G9
Phone: (403) 468-1582

HIST 439 Imperial Vienna From Mozart to Freud 1750-1918 ★6 This is a senior History seminar on the history of the Habsburg Monarchy in the modern era - from the age of enlightened absolutism to 1918. The course will focus on cultural integration in a multi-cultural society as it found expression through the cultural, intellectual and political developments in the imperial capital of the Habsburg Empire, Vienna.

The course will be offered on site in Vienna, Austria during the period July 2 to August 9, 1991.

Total cost will be approximately $4,000 which includes air fare, accommodation, food, entertainment, tuition fees, books, etc.

Deadline for application is February 28, 1991.

Prerequisite: Consent of the Department

For further information contact:

Department of History
2-28 HM Tory Building
University of Alberta
Edmonton, AB T6G 2H4
Phone: (403) 492-3270

266 Unclassified Student Program

266.1 Definitions and Deadlines

Unclassified students are adult students registered in selected credit courses but who are not committed or admitted to a degree or diploma program but are taking specified courses for general interest. No assurance is given that courses taken through the Unclassified Student Program will subsequently be credited to a degree or diploma program. A full record of each student's work will be kept. If an Unclassified Student decides to apply for admission to a degree or diploma program at a later date, the credits earned can be evaluated for appropriateness to that program.

Deadlines:

Unclassified Students must apply and register by:

Spring Term	**Summer Term**
May 7, 1991	July 3, 1991

266.2 Application/registration Procedure

1. Obtain a copy of the **Unclassified Student Application and Registration** form from:
   Special Registrations Co-ordinator
   Office of the Registrar
   2nd Floor Administration Building
   University of Alberta
   Edmonton, AB T6G 2M7
   Phone: (403) 492-4610
2. Consult the list of course offerings for Unclassified Students (Section 264.4) to determine which courses are open to Unclassified Students.
3. Complete all parts of the "Application and Registration" forms. Incomplete applications will be returned.
4. Enclose a cheque or money order to cover the full cost of the fees required.
   Fees to be paid are made up of three components:
   a) Application Fees (*);
   b) Tuition Fees, and;
   c) Library and Computing Services Fees.
   (*) Not required if the student has previously been enrolled as an Unclassified Student.
   Unclassified Students are not assesed General Fees (that is, Students' Union, Athletic Services, and Health Services).

At the time of publication of this Calendar, the 1991-92 fee schedule had not been set. Fees are approved by the Board of Governors and students pay their fees at the rates which are in effect at the time of payment.

For information on fees applicable to Unclassified Students contact:
Special Registrations Co-ordinator
Office of the Registrar
2nd Floor Administration Building
University of Alberta
Edmonton, AB T6G 2M7
Phone: (403) 492-4610

Alberta residents age 65 or more are not required to pay application fees or tuition fees (proof of age is required). Students who are not Canadian Citizens or Permanent Residents (Landed Immigrants) must pay an additional 50% of the tuition fee and submit official education transcripts. **Payment in full must accompany the form. (No cash will be accepted).**

5. Read the declaration at the bottom of the form and sign it.

266.3 Special Regulations

University Regulations: Rules and regulations applicable to all other University students apply to Unclassified Students as well.

Transcript Requirements: Unclassified Students are not normally required to submit high school or university transcripts. In some cases, documents may be requested. An example would be to clear a prerequisite for a certain course.

Students who have been required to withdraw from a post-secondary institution will not be considered for admission as Unclassified Students for a period of one year from the date they were required to withdraw.

English Language Proficiency Requirements: Unclassified Students are subject to the English Proficiency requirements as specified in Admission section of this Calendar. Students whose native language is other than English will be required to provide proof of English Language Proficiency.

Maximum Course Load: Contact the Special Registrtions Coordinator, Office of the Registrar (492-4610) for details of maximum course load.

General Fees: Unclassified Students will not be assessed general fees, and are not eligible for Students' Union, University Athletic Services, or Univesity Health Services benefits.

Student I.D. Cards: Student I.D. cards will be issued which may be validated for library privileges.

Withdrawals and Cancelation of Registration: Students who wish to cancel their registration must submit a "Notice of Withdrawal" form to the Special Registrations Co-ordinator (2nd Floor, Administration Building). Fees will be pro-rated according to the schedule in section 262.4 of this Calendar, **to the date when the form is approved.** A failing grade will be assigned if a student ceases to participate in a course without providing notification of withdrawal, or if a student withdraws after the deadline published in the **Academic Schedule** (Section 261) of this Calendar.

266.4 Courses Available to Unclassified Students

ADMSC 401
AG EC 400
AG EC 484
ANDR 510
ANDR 520
ANTHR 101
ANTHR 110
ANTHR 150
ANTHR 355
ANTHR 383
ANTHR 392
ART H 231
ART H 232
ART H 281
ART H 282
BIOL 197
BOT 199
BOT 304
CANST 302
CHINA 350
CHINA 450
CHRTC 266
CHRTC 292
CHRTC 349
CHRTC 351
CHRTC 352
CHRTC 411
CL TX 430
CL TX 433
CL TX 517
CLASS 102
CLASS 110
CLASS 141
CLASS 201
CLASS 251
CLASS 367
CLASS 368
CLASS 475
CLASS 476
CLASS 602
CMPUT 114
CMPUT 115
CMPUT 157
CMPUT 161
CMPUT 169
CMPUT 172
CMPUT 251
CU ME 339
CU ME 347
CU ME 350
CU ME 496
CU ME 500
CU ME 501
DANCE 255
DANCE 260
DANCE 340
DANCE 355
DRAMA 102
DRAMA 149
DRAMA 247
DRAMA 304
DRAMA 353
DRAMA 379
DRAMA 492
ECON 101
ECON 102
ECON 311
ECON 318
ECON 323
ECON 341
ECON 373
ECON 381
ECON 382
ECON 421
ED EL 405[1]
ED EL 406[1]
ED EL 407[1]
ED EL 411[1]
ED EL 420[1]
ED EL 450[1]
ED EL 451[1]
ED EL 457[1]
ED EL 496[1]
ED EL 505[1]
ED EL 510[1]
ED EL 560[1]
ED EL 567[1]
ED EL 595[1]
ED EL 596[1]
ED EL 696[1]
ED ES 443[1]
ED ES 546[1]
EDACT 245
EDACT 274
EDACT 404
EDACT 498
EDACT 503
EDACT 591
EDADM 505
EDADU 439[1]
EDADU 551
EDADU 577[1]
EDFDN 301[1]
EDFDN 340[1]
EDFDN 341[1]
EDFDN 350[1]
EDFDN 360[1]
EDFDN 361[1]
EDFDN 401[1]
EDFDN 431[1]
EDFDN 432[1]
EDFDN 452[1]
EDFDN 493[1]
EDFDN 495[1]
EDFDN 501[1]
EDFDN 557[1]
EDFDN 561[1]
EDFDN 564[1]
EDPSY 341
EDPSY 397[3]
EDPSY 411[3]
EDPSY 497[4]
EDSEC 400[5]
EDSEC 401[5]
EDSEC 439[5]
EDSEC 463[5]
EDSEC 475[5]
ENGL 110
ENGL 175
ENGL 303[1]
ENGL 304[1]
ENGL 306[1]
ENGL 309[1]
ENGL 332[1]
ENGL 360[1]
ENGL 366[1]
ENGL 389[1]
EVAED 498
F ST 200
FAM 449
FAM 460
FAM 649
FRANC 110
FRANC 113
FRANC 114
FRANC 315
FRANC 319
FRANC 322
FREN 100
FREN 150
FREN 155
FREN 156
FREN 250
GEOL 201
GEOL 204
GEOL 207
GEOL 208
GERM 165
GREEK 100
HE ED 210
HIST 100
HIST 110
HIST 120
HIST 251
HIST 260
HIST 261
HIST 320
HIST 365
HIST 439[1]
HISTE 375
INT D 465
LATIN 100
LAW 300
LAW 301
LING 101
LING 203
LING 204
LIS 412[1]
LIS 593[1]
LIS 594[1]
LIS 598[1]
MA SC 400
MA SC 401
MA SC 402
MA SC 410
MA SC 440
MA SC 446
MA SC 450
MA SC 454
MA SC 460
MA SC 470
MATH 101
MATH 113
MATH 115
MATH 120
MATH 121
MATH 153
MATH 201
MATH 214
MATH 215
MATH 223
MATH 241
MATH 242
MATH 253
MATH 311
MATH 323
MATH 324
MATH 334
MUSIC 100
MUSIC 101
MUSIC 201
MUSIC 209
MUSIC 211
MUSIC 431
NS 101
NS 310
NURS 377[1]
NURS 378[1]
OCCTH 106
OCCTH 107
OCCTH 498
PAC 200
PAC 201
PAC 231
PAC 233
PAC 234
PAC 235
PAC 245
PAC 270
PAC 300
PAC 303
PAC 311
PAC 355
PAC 380
PESS 210
PESS 260
PESS 292
PESS 293

PESS 302
PESS 304
PESS 308
PESS 309
PESS 310
PESS 382
PESS 401
PESS 490
PESS 499
PESS 582

PHIL 121
PHIL 122
PHIL 130
PHIL 139
PHIL 140
PHIL 303
PHIL 323
PHIL 332
PHIL 339
PHIL 364

PHILE 121

PMCOL 222

POL S 312
POL S 321
POL S 363

PS ED 482

PSYCO 104
PSYCO 105
PSYCO 211
PSYCO 223
PSYCO 233
PSYCO 241
PSYCO 258
PSYCO 275
PSYCO 281
PSYCO 288
PSYCO 339
PSYCO 353
PSYCO 431

R SOC 391
R SOC 491

RELIG 277
RELIG 304
RELIG 356
RELIG 375

RLS 431

RUSS 301
RUSS 498[2]

SOC 100
SOC 101
SOC 102
SOC 210
SOC 224
SOC 225
SOC 241
SOC 251
SOC 260
SOC 261
SOC 271
SOC 300
SOC 301
SOC 315
SOC 327
SOC 332
SOC 333
SOC 343
SOC 344
SOC 368
SOC 376
SOC 382
SOC 459
SOC 465
SOC 473

SPAN 100

STAT 141
STAT 237
STAT 255
STAT 265
STAT 266
STAT 341

UKR 327

ZOOL 241

[1] Departmental consent required
[2] Interview with Department Chairman required
[3] Certified teachers only — Certificate must be provided
[4] Lec 10, 40 and 60 only with a Teacher's Certificate
[5] Teacher's Certificate or Departmental consent required

UNIVERSITY OF ALBERTA TELEPHONE REGISTRATION WORKSHEET

Only a Touch Tone telephone can be used to make entries. Touch Tone phones make a different tone sound after each button is pressed. Phones that make no tone or the same tone for each button pressed will not work.
A voice response will guide you after each entry. Press an entire *sequence* when asked to do so. A *sequence* includes: *action code, star key* (*), *catalogue numbers,* and the *pound key* (#).

1 Call the System Number:

Enter the area code only if you are calling outside the Province of Alberta; the area code is [4][0][3] (Area Code)

[4][9][2][5][5][0][0]

2 Enter your Student Identification Number and Birthdate:

[ ][ ][ ][ ][ ][ ][*][ ][ ][ ][ ][ ][#]

Y Y M M D D

3 Enter the entire action code sequence as follows: (Obtain this information from page 34.)

ACTION CODE [R][*][9][1][0][5][*][ ][ ][*][ ][ ][#]

Session Code — Faculty Code — Degree Code

4 Enter the proper course request sequence and listen for the response:

TO ADD A COURSE

Add Code	Star Key	Catalogue Number	Pound Key	Course Abbreviation	Course Number	Section Type	Section Number
A	*		#				
A	*		#				
A	*		#				
A	*		#				
A	*		#				
A	*		#				
A	*		#				
A	*		#				
A	*		#				
A	*		#				
A	*		#				
A	*		#				
A	*		#				
A	*		#				
A	*		#				
A	*		#				

TO DROP A COURSE

Drop Code	Star Key	Catalogue Number	Pound Key	Course Abbreviation	Course Number	Section Type	Section Number
D	*		#				
D	*		#				
D	*		#				
D	*		#				
D	*		#				

5

TO TERMINATE YOUR CALL [X][#] Will exit the system and terminate the phone call.

6 Other Requests

[L][#] Will list all of the courses in which you are registered.

[M][*][M][#] Will transfer your eligible courses to the new program.

To cancel your entire registration refer to page 37.

If you make a mistake in entering your request, press the pound key (#) and wait for the response.
If you are having telephone registration problems, please call the Office of the Registrar at 492-8237.

FAILURE TO TERMINATE YOUR CALL CORRECTLY MAY JEOPARDIZE YOUR REGISTRATION.

267.2 Faculty / Degree Codes for Telephone Registration

SESSION CODE — 9105

Agriculture and Forestry	
BSc in Agriculture	24 * 01
BSc in Food Science	24 * 02
BSc in Agricultural Engineering	24 * 04
BSc in Forestry	24 * 05
BSc in Agricultural Business Management	24 * 08
Visiting Student	24 * 97
Special Student	24 * 99
Arts	
BA (General)	27 * 06
BA (Honors)	27 * 07
BFA	27 * 09
B Music (Honors)	27 * 10
B Music	27 * 11
BA (Special)	27 * 12
BA in Canadian Studies	27 * 13
Special Certificate	27 * 14
BA Special in Criminology	27 * 15
BA Special in East Asian Studies	27 * 16
BA (4-year program)	27 * 20
Visiting Student	27 * 97
Special Student	27 * 99
Business	
B Comm	22 * 17
Visiting Student	22 * 97
Special Student	22 * 99
Education	
BEd	33 * 28
BEd/BSc	33 * 26
Diploma in Education (Graduate Dipl.)	33 * 35
Visiting Student	33 * 97
Special Student	33 * 99
Engineering	
BSc in Engineering (Qualifying)	36 * 40
BSc in Chemical Engineering	36 * 30
BSc in Civil Engineering	36 * 31
BSc in Computer Engineering	36 * 32
BSc in Electrical Engineering	36 * 33
BSc in Mechanical Engineering	36 * 34
BSc in Metallurgical Engineering	36 * 35
BSc in Mineral Process Engineering	36 * 36
BSc in Mining Engineering	36 * 37
BSc in Petroleum Engineering	36 * 38
BSc in Engineering Physics	36 * 39
Graduate Studies and Research	
Master of Agriculture	47 * 40
Postgraduate Diploma	47 * 41
Master of Public Management	47 * 42
Master of Nursing	47 * 44
Doctor of Education	47 * 45
Doctor of Philosophy	47 * 46
Master of Laws	47 * 47
Master of Arts	47 * 48
Master of Business Administration	47 * 49
Master of Visual Arts	47 * 50
Master of Education	47 * 51
Master of Engineering	47 * 52
Master of Fine Arts	47 * 53
Master of Pharmacy	47 * 54
Master of Health Services Administration	47 * 55
Master of Music	47 * 56
Master of Science	47 * 57
Qualifying Graduate Year	47 * 61
Doctor of Music	47 * 63
Master of Business Administration/Doctor of Philosophy in Business Joint Program	47 * 68
Master of Public Management/Bachelor of Laws Joint Program	47 * 70
Master of Public Management/Doctor of Philosophy in Business Joint Program	47 * 73
Master of Public Management/Bachelor of Laws Qualifying Graduate Year	47 * 75
Master of Business Administration/Bachelor of Laws Joint Program	47 * 82
Master of Business Administration/Bachelor of Laws Qualifying Graduate Year	47 * 85
Master of Library and Information Studies	47 * 87
Home Economics	
BSc in Home Economics	43 * 62
Visiting Student	43 * 97
Special Student	43 * 99
Medical Laboratory Science	
BSc in Medical Laboratory Science	67 * 67
Visiting Student	67 * 97
Special Student	67 * 99
Native Studies	
BA in Native Studies	62 * 18
Nursing	
BSc in Nursing (Basic)	68 * 82
BSc in Nursing (Post-Basic)	68 * 83
Visiting Student	68 * 97
Special Student	68 * 99
Pharmacy and Pharmaceutical Sciences	
BSc in Pharmacy	74 * 80
Visiting Student	74 * 97
Special Student	74 * 99
Physical Education and Recreation	
BPE/BEd	73 * 81
BA in Recreation Administration	73 * 84
BPE (Old Program)	73 * 85
BPE (New Program)	73 * 86
Visiting Student	73 * 97
Special Student	73 * 99
Rehabilitation Medicine	
BSc in Occupational Therapy	76 * 91
BSc in Physical Therapy	76 * 92
BSc in Speech Pathology & Audiology	76 * 88
Visiting Student	76 * 97
Special Student	76 * 99
Faculté Saint-Jean	
BA (4-year program)	93 * 20
BA General	93 * 06
BA Special	93 * 12
BA Canadian Studies	93 * 13
BEd	93 * 28
BEd/BSc	93 * 26
BSc General	93 * 93
BSc (New 4-year program)	93 * 92
Diploma in Education	93 * 35
Visiting Student	93 * 97
Special Student	93 * 99
Science	
BSc (3-year General)	72 * 93
BSc (4-year General)	72 * 92
BSc (Special)	72 * 95
BSc (Honors)	72 * 94
Diploma in the Faculty of Science	72 * 37
Honors Certificate	72 * 38
Special Certificate	72 * 39
Visiting Student	72 * 97
Special Student	72 * 99

267.3 Telephone Registration Procedures

STEP ONE

Check your telephone to ensure that it is a true Touch Tone Telephone. Push button phones which do not generate a different tone for each number selected will not work.

ORGANIZE YOUR REGISTRATION MATERIAL

You will need the following to register:
- Special Sessions Calendar
- Admission Letter for new students

It is to **your advantage** to register as soon as possible.

PROGRAM REQUIREMENTS

Before selecting your courses, review the requirements for your program.

CHOOSING COURSES AND SECTIONS

Before proceeding, check the course listing and the calendar requirements for:
- Course restrictions
- Need for department consent
- Prerequisites
- Corequisites
- Pre-session study

When you select your courses, be certain that you have included each type of instruction [LEC (lecture), LAB (laboratory), SEM (seminar), etc.] listed for the course.

- Auditors

  To register as an Auditor Only (i.e., you are not registered for credit in any courses), complete an 'Auditor Only' registration form, available at the Registrar's Office, Student Access Centre, main floor of the Administration Building. Auditors may not register until the first day of classes. If space permits, audit registrations may be accepted at that time. If you wish to register in a combination of credit and audit courses, please refer to section 262.3.

- Unclassified Students

  Unclassifed students should contact the Special Registration Coordinator at the Registrar's Office, 2nd floor, Administration Building or phone 492-4610.

- Examination Schedule

  When you select your courses, check your examination schedules, which appear in the 'Timetable'.

STEP TWO

COMPLETE THE TELEPHONE REGISTRATION WORKSHEET

Locate the "tear out" Telephone Registration Worksheet.

The example on the next page shows how to transfer information from the course listings in this calendar to the worksheet.

Complete your Telephone Registration Worksheet.

Enter the following information:
- Catalogue Number
- Course Abbreviation
- Course Number
- Section Type
- Section Number

Refer to the course listings in this calendar to double check your entries. Complete an entry for each type of instruction required for the course (e.g. LEC, LAB, SEM, CLN).

Session Codes:
Intersession 9105
For Faculty/Degree Codes for Telephone Registration
see page 34.

Telephone Registration System Opens February 15, 1991
(see page 36 for operating hours)

Example . . .

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS
CHEM 100	6	Spr: FULL	12345	Lec nn	1000-1220
Introductory University Chemistry			98765	Sem nn	1300-1405
			34587	Lab nn	1415-1730

4 Enter the proper course request sequence and listen for the response:

TO ADD A COURSE

Add Code	Star Key	Catalogue Number	Pound Key	Course Abbreviation	Course Number	Section Type	Section Number
A	*	12345	#	CHEM	100	Lec	20
A	*	98765	#	CHEM	100	Sem	20
A	*	34587	#	CHEM	100	Lab	20

Courses closed to telephone registration are so indicated by a comment in the timetable footnote and an 'X' preceding the catalogue number. You must go to the teaching department to register in such courses.

Re-check your Telephone Registration Worksheet.

When you are satisfied that the information on your worksheet is complete and accurate, go to **STEP THREE.**

STEP THREE

REGISTER BY TOUCH TONE TELEPHONE

REGISTER EARLY

Due to financial constraints only courses which have adequate enrollment are offered in the Intersession. Low enrollment courses will be withdrawn by the following deadlines:

Spring Term — April 10, 1991
Summer Term — June 5, 1991

STANDARD OPERATING HOURS
Monday through Thursday:
0800 - 2200 hours

Friday:
0800 - 1630 hours

Saturday and Sunday:
0800 - 1700 hours

The system will be closed:
Statutory Holidays

The system opens for Intersession Registration on Friday, February 15, 1991.

Follow the steps on the "tear out" Telephone Registration Worksheet. The shaded area is for your information only.

For each course, register in the primary section (normally a LECTURE) first. You must register in a non-primary section (e.g. LAB, SEM, CLN) immediately thereafter, if one is required for the course.

The voice response will confirm a successful registration in a course immediately after entry. If your selection is unavailable, the computer will suggest an alternative choice, if one is available.

Note: When a desired course is unavailable, you may wish to interrupt your registration by terminating this call (enter X#). The course sections you have successfully selected will be retained for you. When you have made alternative selections that fit your timetable, call again to continue your registration.

If the suggested alternative is not listed, telephone 492-8237 for the catalogue number and time offered. Ensure that you are prepared to write down the information provided. (This number is available during normal office hours only).

Before terminating the telephone call, you should use the list function (enter L#) to check the entries which were successfully completed.

STEP FOUR

HOW TO CHANGE YOUR REGISTRATION

If you are registered in courses that are open to the telephone registration system, you can:

- Drop courses
- Add courses
- Cancel your entire registration

using the telephone system.

If you drop a primary section (e.g. lecture), the non-primary sections, (e.g. laboratories, seminars, clinics) are automatically dropped.

If you drop a non-primary section, your primary section will be unaffected.

If you wish to change sections in a course, drop your original request before adding the new section.

If you have registered in a course or section that is subsequently cancelled, you will be notified by mail.

Use the telephone registration system to make changes until 2200 hours on the appropriate dates as indicated below:

Spring - term and full session courses	Tues. May 7, 1991
Summer - term courses	Wed. July 3, 1991

WITHDRAWAL FROM COURSES

After the closing of telephone registration in a term, use a 'Change to Audit Status/Withdrawal' form to withdraw from courses. Forms are available at the Student Access Centre, main floor of the Administration Building, and at your faculty office.

CANCELLATION OF YOUR ENTIRE REGISTRATION

The request to cancel your entire registration **must be used with care:** once you have entered the request via the telephone, **all** your courses will be deleted from the program and session that you have accessed.

To cancel your entire registration, please enter:

S * S #

Once the deadline for course changes for first term and full session has passed, this procedure is no longer available. Second term course drops must be done individually.

HOW TO CHANGE YOUR PROGRAM

YOU MAY BE REGISTERED IN ONLY ONE PROGRAM AT A TIME.

If you are registered in courses in one program, and are subsequently admitted to another program, you may:

1. Retain your previous registration if you decide not to enter the new program.
2. Cancel your previous registration and re-register in the new program.
3. Register in the new program by transferring eligible courses from the old to the new program — your previous registration will be cancelled automatically.

If you choose to register in the new program, enter the new Faculty and Degree codes in the action code. You will be prompted by the system when you attempt to add your first course as follows:

You are already registered in another program. To transfer your courses to the new program, please enter the M key followed by the star key, then the M key followed by the pound key and stand by, or to cancel your previous program please enter the S key followed by the star key, then the S key followed by the pound key, or please enter your request now.

After you have completed the request to transfer courses to a new program (M * M #), please list your courses (L #) to verify those that were successfully transferred.

Note that courses for which you are not eligible under the new program will have been dropped.

STEP FIVE

CONFIRMATION OF YOUR REGISTRATION AND FEE ASSESSMENT

Your registration in Spring or Summer courses is confirmed at the time you register. A fee assessment will be mailed to you immediately when you effect a telephone registration.

If you do not receive this notice prior to the start of classes, it is your responsibility to obtain an assessment from the Office of the Registrar. You are accountable for fees for any course in which you are registered.

WARNING

Your student identification number is part of your telephone registration security access code. Do not give your student identification number or student identification card to other students.

Students who attended the 1990-91 Winter Session will continue using their Winter Session identification card.

IDENTIFICATION CARDS AND LIBRARY VALIDATION

Students who have not attended the 1990-91 Winter Session may pick up their identification card at the Office of the Registrar, Administration Building on the first day of classes.

IF YOU DO NOT PLAN TO ATTEND

If you do not plan to attend, it is your responsibility to cancel your registration. Failure to do so will make you responsible for the payment of fees and a failing grade will be added to your record.

Responses from the Telephone Registration System

As you follow the steps of registration, the telephone registration system will:

- Prompt you to make your next request.
- Evaluate each request.
- Inform you whether or not your request was successful.

The following comments are intended to assist you in evaluating some of the responses given by the telephone registration system.

Telephone Registration System

Voice Response	Explanation
Busy Signal	All lines are busy or The telephone registration system has temporarily lost computer access. Please call again at a later time.
No answer	The system is temporarily unavailable. Please call again later.
"You are already registered in another program. To transfer your courses to the new program, please enter the M key followed by the star key, then the M key followed by the pound key and stand by, or to cancel your previous program, please enter the S key followed by the star key, the S key followed by the pound key, or please enter request now."	**TO TRANSFER** your eligible courses from your previous registration press: M*M# (as illustrated on the Telephone Registration Worksheet) OR **TO CANCEL** your previous registration entirely press: S*S# (as described in Step Four). If you do not wish to transfer or to cancel your previous registration, you cannot continue with this registration. Terminate this call by pressing X#.
I am sorry. You are not eligible to register in the requested session or program. Check and please enter an action code now.	You have not been admitted to the requested session or program, or you have not entered your action code correctly.
"I am sorry. There is a financial hold on your record. For assistance, call the Registrar's Office at 492-3113 between 9:00 a.m. and 4:00 p.m. Thank you for calling. Good bye."	You are unable to register because you failed to clear an outstanding account (e.g., parking ticket, transcript fee, tuition, library fine, etc.).
"I am sorry. You are not eligible to register in this section. Please enter your request now."	Refer back to the course timetable and check the published restrictions for this course.
"I am sorry. This section you requested is full. No other sections of this course are available. Please enter your request now."	As a course becomes full, additional sections may be added or seats may be released as other students request registration changes. Try again later to see if openings are available or choose an alternative course.
"I am sorry. The section you requested is cancelled. No other sections of this course are available. Please enter your request now."	Additional sections may be added at a later date.Try again later to see if openings are available or choose an alternative course.

"I am sorry. The section you requested is cancelled (or full). Section _ _ at the same time is available. If you would like this class, press A followed by the pound key or please enter your request now."	If this section you requested is full or cancelled and another section is available at the same time, the system will offer that section to you. To accept registration in the section offered, simply press "A" followed by the pound (#) key.
"I am sorry. The section you requested is cancelled (or full). Section— at another time is available. Please enter your request now."	Note the section number suggested. Go back to the timetable, select either the suggested section or an alternative section. Be careful not to introduce a scheduling conflict into your timetable. If the suggested alternative is not listed, telephone 492-8237 for further information.
"The section you requested does not exist. Check and please enter your request now."	The catalogue number you have entered is incorrect. Go back to the course listings and check the catalogue number.
"I am sorry. The section you requested cannot be added to your registration. Check and please enter your request now."	The catalogue number you have entered is not a valid number for the session requested. Go back to the course listings.
"I am sorry. Adding this section will exceed the maximum number of courses permitted in a term or session. Please enter your request now."	If you wish to exceed the maximum course load permitted for your program, you must contact your faculty office for approval.
"I am sorry. You must add the primary section of the course first. Please enter your request now."	The primary section (usually LEC) must be added to your registration before you attempt to add non-primary (e.g. LAB, SEM) sections.
"Course (e.g. Biology) Number (e.g. 197) Type (e.g. Lecture) Section number (e.g. 50) has been added to your timetable. Ensure you register in the associated lab seminar or clinic. Please enter your request now."	If you do not register in the required non-primary section(s) such as LAB, SEM, CLN, your registration in the course is not complete. Due to the demand for laboratory space, you will have problems when classes start if you fail to register now in the appropriate non-primary sections.
"Course (e.g. Biology) Number (e.g. 297) Type (e.g. Lecture) Section number (e.g. 50) has been dropped from your timetable. The associated Lab, Seminar or Clinic has been dropped from your timetable. Please enter your request now."	When you drop a primary section (usually LEC) the associated non-primary sections (LAB, SEM, CLN) are automatically dropped. If you wish to re-add the course you must add both the primary and non-primary sections.
"Telephone registration in this course is not available. Check and please enter your request now.	If you receive this response, contact the teaching department for registration assistance.

If you encounter problems with telephone registration, call:

492-8237

268 Late Afternoon and Evening Courses

Additional details about the courses listed below may be found in the **Timetable** and **Course Descriptions** sections of this Calendar.

Course				Term	Time	Days (*)
Acounting						
ACCTG	424	Lec	10	Spring	1800-2100	MR
Administration Scolaire et Media/ Educational Adminstration and Media						
ADMSC	401	Lec	10	Spring	1830-2130	MW
Anthropology						
ANTHR	393	Lec	10	Spring	1830-2115	TR
Christian Theology						
CHRTC	292	Lec	10	Spring	1830-2120	TR
Drama						
DRAMA	304	Lec	20	Spring	1630-1850	MTWRF
Elementary Education						
ED EL	407	Lec	10	Spring	1800-2050	TR
ED EL	411	Lec	10	Spring	1800-2050	MW
ED EL	496	Sem	10	Spring	1800-2050	TR
ED EL	496	Sem	11	Spring	1800-2050	MW
ED EL	496	Sem	12	Spring	1800-2120	MW
ED EL	505	Lec	10	Spring	1730-2020	TR
ED EL	595	Sem	10	Spring	1800-2050	TR
ED EL	595	Sem	11	Spring	1800-2050	MW
Education - Administration						
EDADM	401	Lec	13	Spring	1800-2050	TR
EDADM	515	Lec	10	Spring	1800-2050	TR
EDADM	553	Lec	30	Spring	1800-2050	TR
EDADM	565	Lec	10	Spring	1800-2050	MW
Education - Adult						
EDADU	521	Lec	10	Spring	1700-2000	TR
EDADU	523	Lec	10	Spring	1800-2050	MW
EDADU	577	Lec	10	Spring	1830-2115	MW
Education - Foundations						
EDFDN	360	Lec	10	Spring	1730-1835	MTWRF
EDFDN	493	Lec	11	Spring	1830-1935	MTWRF
EDFDN	561	Lec	10	Spring	1730-2015	TR
Education - Psychology						
EDPSY	397	Lec	10	Spring	1700-2000	TR
EDPSY	497	Lec	10	Spring	1700-2000	TR
EDPSY	544	Lec	10	Spring	1700-2000	TR
EDPSY	545	Lec	30	Spring	1800-2100	W
		Lab	30	Spring	0900-1600	S
EDPSY	546	Lec	10	Spring	1800-2100	W
		Lab	10	Spring	0900-1600	S
EDPSY	582	Lec	10	Spring	1700-2000	TR
EDPSY	597	Lec	10	Spring	1800-2100	TR
EDPSY	697	Lec	10	Spring	1800-2100	TR
Education - Secondary						
EDSEC	439	Lec	10	Spring	1600-1845	MW
EDSEC	463	Lcl	10	Spring	1630-1845	TR
EDSEC	501	Lec	10	Spring	1600-1850	TR
English						
ENGL	110	Lec	23	Spring	1830-2050	MTWRF
ENGL	110	Lec	52	Summer	1830-2050	MTWRF
French and French-Canadian Languages and Literatures						
FREN	155	Lec	10	Spring	1830-2115	TR
FREN	156	Lec	40	Summer	1830-2115	TR

(*) M=Monday; T=Tuesday; W=Wednesday; R=Thursday; F=Friday; S=Saturday; U=Sunday

Course				Term	Time	Days (*)
Genetics						
GENET	165	Lec	40	Summer	1830-2115	TR
Health Education						
HE ED	210	Lec	10	Spring	1630-1735	MTWRF
History						
HIST	365	Lec	10	Spring	1800-1950	MTW
Histoire/History						
HISTE	375	Lec	10	Spring	1830-2130	TR
Library and Information Studies						
LIS	412	Lec	10	Spring	1800-2045	MW
LIS	594	Lec	10	Spring	1800-2045	TR
		Sem	10	Spring	2100-2210	TR
Mathematics						
MATH	101	Lec	40	Summer	1900-2030	MTWRF
		Lab	40	Summer	2040-2115	MTWRF
MATH	113	Lec	11	Spring	1900-2030	MTWR
		Lab	11	Spring	2030-2105	MTWR
MATH	120	Lec	11	Spring	1900-2020	MTWR
Music						
MUSIC	431	Lec	10	Spring	1830-2115	MW
Nursing						
NURS	560	Lec	10	Spring	1630-1930	TR
NURS	560	Lec	11	Spring	1630-1930	MW
Occupational Therapy						
OCCTH	598	Sem	10	Spring	1600-1705	MTWRF
Organizational Analysis						
ORG A	502	Lec	30	Spring	1830-2200	MTWRF
Physical Education and Sport Studies						
PAC	200	Lbl	10	Spring	1930-2050	TR
PAC	234	Lbl	10	Spring	1600-1720	TR
PAC	355	Lec	11	Spring	1630-1735	MTWRF
PESS	210	Lec	10	Spring	1830-1935	MTWRF
		Lab	10	Spring	1935-2010	MTWR
PESS	260	Lec	10	Spring	1630-1735	MTWRF
PESS	308	Lec	10	Spring	1830-1935	MTWRF
PESS	494	Lec	40	Summer	1800-2045	MW
PESS	499	Sem	31	Spring	1900-2100	MTWRF
PESS	499	Sem	60	Summer	1900-2100	MTWRF
PESS	582	Sem	30	Spring	1900-2100	MTWRF
PESS	599	Sem	60	Summer	1900-2100	MTWRF
Philosophy						
PHIL	332	Lec	10	Spring	1800-2045	TR
Recreation and Leisure Studies						
RLS	431	Lec	10	Spring	1830-2115	TR
Sociology						
SOC	100	Lec	12	Spring	1830-2115	TR
SOC	210	Lec	10	Spring	1730-2015	TR
SOC	210	Lec	11	Spring	1730-2015	MW
SOC	210	Lec	40	Summer	1800-2045	TR
SOC	225	Lec	10	Spring	1730-2015	TR
SOC	225	Lec	40	Summer	1800-2045	TR
SOC	241	Lec	11	Spring	1830-2115	TR
SOC	260	Lec	10	Spring	1800-2045	TR
SOC	271	Lec	10	Spring	1730-2015	TR
SOC	300	Lec	10	Spring	1730-2015	MW
SOC	315	Lec	11	Spring	1730-2105	TR
		Lab	11	Spring	1730-1950	MW
SOC	327	Lec	40	Summer	1830-2115	MW
SOC	332	Lec	10	Spring	1800-2045	TR
SOC	343	Lec	10	Spring	1730-2015	MW
SOC	368	Lec	40	Summer	1830-2115	MW
SOC	473	Lec	10	Spring	1830-2115	TR

(*) M=Monday; T=Tuesday; W=Wednesday; R=Thursday; F=Friday; S=Saturday; U=Sunday

269 Explanation of Timetable Columns

Example . . .

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM
CHEM 100 Introductory University Chemistry	6	Spr: FULL	12345 98765 34587	Lec nn Sem nn Lab nn	1000-1220 1300-1405 1415-1730	C E1 60 BS B 121 C E2 10

Course Abbrevation Number, and Description

Course Weight (used in calculating Grade Point Averages)

Spr: FULL or Sum: FULL means course is taught over the full six weeks of the particular term. Courses with specific dates mean the course is given over the dates specified.

Telephone Registration Catalogue Number. Prefix of "x" means the course is closed to Telephone Registration.

Lec = Lecture
Sem = Seminar
Lab = Lab
Lcl = Lec/Lab where Lec predominates
Lbl = Lab/Lcl where Lab predominates
Cln = Clinic

24 hr clock

Lectures are held Mon thru Fri (unless otherwise stated). Labs are held Mon thru Thurs (unless otherwise stated).

M = Monday
T = Tuesday
W = Wednesday
R = Thursday
F = Friday
S = Saturday
U = Sunday

See BUILDING ABBREVIATIONS Chart on next page for explanation of Building Codes

Country/city/ centre name is given for Off-Campus courses.

269.1 Building Abbreviations

Bldg. Abbr.	Building	Map Grid Reference
A	Arts	B3
ADM	Administration	C2
AF	Agriculture-Forestry Centre	C1
AH	Assiniboia Hall	B2
AT	Athabasca Hall	B2
AW1	Art Workshop 1	C1
AW2	Art Workshop 2	B1
AW3	Art Workshop 3	B3
BS	Biological Sciences *	
	B — Botany Wing	
	CW — Centre Wing	
	G — Genetics Wing	A2
	M — Microbiology Wing	
	P — Psychology Wing	
	Z — Zoology Wing	
BUS	Business	B3
C	Chemistry *	
	E — East Wing	B2
	W — West Wing	
CAB	Central Academic	B2
CC	Cancer Clinic	G1
CEB	Civil/Electrical Engineering	C2
CH	Corbett Hall	G3
CL	Cameron Library	B3
CME	Chemical-Mineral Engineering	B1
CS	Clinical Sciences	F3
CT	Campus Tower	
	(112 St. and 87 Ave.)	E4
DP	Dentistry-Pharmacy	C3
ESC	Earth Sciences Centre	B3
ED	Education *	
	N — North Wing	D3
FAB	Fine Arts	D4
FSJ	Faculté Saint-Jean	
	(8406-91e rue)	A3
GPC	Garneau Professional Centre	11044-82 Ave.
GR	Glenrose Hospital	10230-111 Ave.
GO	Good Samaritan Hospital	97 St & 71 Ave.

Bldg. Abbr.	Building	Map Grid Reference
GSB	General Services	C1
HC	Humanities	B4
HEC	Home Economics	D3
HUB	HUB International	C4
LC	Law Centre	D4
LH	Lister Hall	E1
MEC	Mechanical Engineering	B2
MS	Medical Sciences	E2
NEW	Newman College 15611 St.Albert Trail	
NGH	North Garneau House 11037 - 89 Ave.	
NPP	North Power Plant	C3
NRB	Newton Resources Building	D2
NRC	Nuclear Research Centre	B2
PB	Pembina Hall	C2
PAV	Universiade Pavilion	D2
P	Avadh Bhatia Physics Laboratory	B2
PED	Van Vliet Physical Education and Recreation Centre *	
	E — East Wing	D2
	W — West Wing	
PL	Public Health (Provincial Lab)	F2
PS	Printing Services	C1
RAH	Royal Alex. Hospital 10240-Kingsway Ave.	
RH3	Ring House 3	A1.5
RS	Rutherford Library South	C3
RSH	Religious Studies House 11045 Sask Drive	
RT	Rehab. Medicine Trailer Complex	G3
SH	University Health Services	D4
SJ	St. Joseph's College	D2
SL	South Lab.	C3
SS	St. Stephen's College	D3
SUB	Students' Union	C2
TA	Temporary Laboratory	B1
T	Henry Marshall Tory	B3
T BW	Henry Marshall Tory Breezeway	B3.5
TL	Henry Marshall Tory Lecture Theatre	B3
TR	Trailer Complex #1	B3
U	University Hall	D2
UH	University Hospital	E3
V	V Wing of Physics-Chemistry Building	B2

*Room numbers in these buildings include abbreviations to designate the different wings in the buildings.

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
ACCTG 311 Introductory Accounting	3	Spr: FULL	83714 67430 34860	Lec 10 Sem 10 Sem 11	0845-0950 1000-1105MW 1000-1105TR	BUS 4-05 BUS 4-05 BUS 4-05	A. Berman
		Restricted to Business students. Other students require written approval of their faculty and consent of the Faculty of Business; 2-20 Business Bldg.					
ACCTG 322 Managerial Information and Control Systems	3	Spr: FULL Restricted to Business students. Other students require written approval of their faculty and consent of the Faculty of Business; 2-20 Business Bldg.	19436	Lec 10	1400-1505	BUS 4-05	A. Berman
ACCTG 424 Intermediate Managerial Control Concepts	3	Spr: FULL Restricted to Business students. Other students require written approval of their faculty and consent of the Faculty of Business; 2-20 Business Bldg.	92308	Lec 10	1800-2100MR	BUS 4-13	G. Spraakman
ADMSC 401 Le rôle du professseur	3	Spr: FULL	13534	Lec 10	1830-2130MW	FSJ	F. McMahon
AG EC 400 Special Topics: Advanced Farm Management	3	Spr: MAY6-31	56718	Sem 30	0800-1150 1400-1550	GSB 559	L. Bauer
AG EC 484 Agricultural Marketing Economics	3	Spr: MAY6-24	68905	Lec 30	1000-1220	GSB 553	J. Fulton
ANDR 510 Formation à la méthodologie de l'andragogie	3	Sum: JUL2-JUL10 La notation sera crédit/échec	51008 02018	Lec 60 Sem 60	0900-1150 1300-1550	FSJ FSJ	D. Chevrolet
ANDR 520 Formation expérientielle à la dynamique de groupe	3	Sum: JUL15-JUL23 La notation sera crédit/échec	55904 11808	Lec 60 Sem 60	0900-1150 1300-1550	FSJ FSJ	D. Chevrolet
ANTHR 101 Introductory Anthropology	3	Spr: FULL	76905	Lec 10	0730-0835	T B-05	W. Kowal
ANTHR 110 Gender, Age and Culture	3	Spr: FULL	24654	Lec 10	0845-0950	T 1-107	P. Mayne
ANTHR 150 Race and Racism in the Modern World	3	Spr: FULL	16547	Lec 10	1330-1435	T 1-90	S. Stratton
ANTHR 301 Topics and Issues in Anthropology	3	Spr: FULL	34152	Lec 10	1115-1220	T 1-90	C. Zutter
ANTHR 301 Topics and Issues in Anthropology	3	Sum: FULL	68306	Lec 40	0730-0835	T B-38	H. Vierich

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
ANTHR 306 Introduction to Archaeology	3	Spr: FULL	35208 70416	Lec 10 Lab 10	1000-1105 1115-1150	T B-108 T B-108	R. Lello
ANTHR 307 Introduction to Social and Cultural Anthropology	3	Spr: FULL	12952	Lec 10	1000-1105	T 1-91	M. Young
ANTHR 307 Introducation to Social and Cultural Anthropology	3	Sum: FULL	25904	Lec 40	1115-1220	T 1-107	F. Ulmer
ANTHR 309 Introductory Physical Anthropology	3	Sum: FULL	28639	Lec 40	1330-1435	T B-76	P. Mayne
ANTHR 355 Contemporary Canadian Native Peoples	3	Spr: FULL	22827	Lec 10	1330-1435	T B-60	S. Smith
ANTHR 355 Contemporary Canadian Native Peoples	3	Sum: FULL	45654	Lec 40	0845-0950	T B-60	F. Ulmer
ANTHR 383 Peoples and Cultures of Western Africa	3	Spr: FULL	56828	Lec 10	0845-0950	T 1-90	H. Verich
ANTHR 392 Primate Behaviour	3	Sum: FULL	74650	Lec 40	1000-1105	T 1-90	L. Gould
ANTHR 393 Health and Healing	3	Spr: FULL	01713	Lec 10	1830-2115TR	T B-38	N. Lovell
ANTHR 396 Archaeological Field Training	6	Spr: MAY21-JUN28	X81811 X63622	Lec 20 Lab 20	All Day All Day	Grande Prairie Grande Prairie	R. LeBlanc
		Closed to telephone registration. Prerequisite: ANTHR 306 or equivalent and consent of Anthropology Department (13-15 Tory Bldg.) required. Application should be made by letter stating student's course background. Students should refer to the Special Programs section preceding this timetable.					
ART 131 Visual Fundamentals	6	Sum: FULL	52125	Lbl 50	0800-1250	HUB 167	TBA
		Students registering in ART 131-Lbl 50 are advised not to register in other courses in the same term.					
ART 312 Painting	6	Spr: FULL	X78639	Lbl 20	0800-1250	HUB 100	K. Harder
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 312/313/413/414/512/513/514 will be taught in conjunction. Students registering in any of these courses are advised not to register in another course during Spring term.					
ART 313 Painting	6	Spr: FULL	X83024	Lbl 20	0800-1250	HUB 100	TBA
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 312/313/413/414/512/513/514 will be taught in conjunction. Students registering in any of these courses are advised not to register in another course during Spring term.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
ART 339 Special Projects in Studio Disciplines: Drawing	6	Spr: FULL	X45433	Lbl 20	0800-1250	NPP 309	J. Marr
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 339/439/539 will be taught in conjunction. Students registering in any of these courses are advised not to register in another course during Spring term.					
ART 362 Sculpture	6	Spr: FULL	X66029	Lbl 20	0800-1250	FAB 1-10	C. Ellis
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 362/363/462/463/464/563/563/564 will be taught in conjunction. Students registering in any of these courses are advised not to register in another course during Spring term.					
ART 363 Sculpture	6	Spr: FULL	X17943	Lbl 20	0800-1250	FAB 1-10	TBA
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 362/363/462/463/464/562/563/564 will be taught in conjunction. Students registering in any of these courses are advised not to register in another course during Spring term.					
ART 413 Painting	6	Spr: FULL	X10611	Lbl 20	0800-1250	HUB 100	TBA
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 312/313/413/414/512/513/514 will be taught in conjunction. Students registering in any of these courses are advised not to register in another course during Spring term.					
ART 414 Projects in Painting	6	Spr: FULL	X62234	Lbl 20	0800-1250	HUB 100	TBA
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 312/313/413/414/512/513/514 will be taught in conjunction. Students registering in any of these courses are advised not to register in another course during Spring term.					
ART 439 Special Projects in Studio Disciplines: Drawing	6	Spr: FULL	X16025	Lbl 20	0800-1250	NPP 309	TBA
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 339/439/539 will be taught in conjunction. Students registering in any of these courses are advised not to register in another course during Spring term.					
ART 462 Sculpture	6	Spr: FULL	X49013	Lbl 20	0800-1250	FAB 1-10	TBA
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 362/363/462/463/464/562/563/564 will be taught in conjunction. Students registering in any of these courses are advised not to register in another course during Spring term.					
ART 463 Sculpture	6	Spr: FULL	X45827	Lbl 20	0800-1250	FAB 1-10	TBA
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 362/363/462/463/464/562/563/564 will be taught in conjunction. Students registering in any of these courses are advised not to register in another course during Spring term.					
ART 464 Sculpture	6	Spr: FULL	X73145	Lbl 20	0800-1250	FAB 1-10	TBA
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 362/363/462/463/464/562/563/564 will be taught in conjunction. Students registering in any of these courses are advised not to register in another course during Spring term.					
ART 512 Painting	6	Spr: FULL	X69924	Lbl 20	0800-1250	HUB 100	TBA
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 312/313/413/414/512/513/514 will be taught in conjunction. Students registering in any of these courses are advised not to register in another course during Spring term.					
ART 513 Painting	6	Spr: FULL	X65619	Lbl 20	0800-1250	HUB 100	TBA
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 312/313/413/414/512/513/514 will be taught in conjunction. Students registering in any of these courses are advised not to register in another course during Spring term.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
ART 514 Projects in Painting	6	Spr: FULL	X19807	Lbl 20	0800-1250	HUB 100	TBA
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 312/313/413/414/512/513/514 will be taught in conjunction. Students registering in any of these courses are advised not to register in another course during Spring term.					
ART 539 Special Projects in Studio Disciplines: Drawing	6	Spr: FULL	X61814	Lbl 20	0800-1250	NPP 309	TBA
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. Spring term. ART 339/439/539 will be taught in conjunction. Students registering in any of these courses are advised not to register in another course during Spring term.					
ART 562 Sculpture	6	Spr: FULL	X89127	Lbl 20	0800-1250	FAB 1-10	
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 362/363/462/463/464/562/563/564 will be taught in conjunction. Students registering in this course are advised not to register in another course during Spring term.					
ART 563 Sculpture	6	Spr: FULL	X67848	Lbl 20	0800-1250	FAB 1-10	TBA
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 362/363/462/463/464/562/563/564 will be taught in conjunction. Students registering in this course are advised not to register in another course during Spring term.					
ART 564 Sculpture	6	Spr: FULL	X78703	Lbl 20	0800-1250	FAB 1-10	TBA
		Closed to telephone registration. Consent of Art and Design Department (3-98 Fine Arts Bldg.) required. ART 362/363/462/463/464/562/563/564 will be taught in conjunction. Students registering in this course are advised not to register in another course during Spring term.					
ART H 101 Introduction to the History of Art I	3	Sum: FULL	56006	Lec 40	0845-0950	FAB 2-20	TBA
ART H 102 Introduction to the History of Art II	3	Sum: FULL	70023	Lec 40	1115-1220	FAB 2-20	TBA
ART H 231 Survey of Renaissance Art I	3	Spr: FULL	92149	Lec 10	1115-1220	FAB 2-20	TBA
ART H 232 Survey of Renaissance Art II	3	Spr: FULL	88355	Lec 10	1330-1435	FAB 2-20	TBA
ART H 281 Survey of Twentieth Century Art I	3	Sum: FULL	51007	Lec 40	1000-1105	FAB 2-20	TBA
ART H 282 Survey of Twentieth Century Art II	3	Sum: FULL	91836	Lec 40	1330-1435	FAB 2-20	TBA
BIOCH 301 General Biochemistry	6	Sum: FULL	42115	Lec 60	1000-1220	MS 2-27	I.T. Fecycz

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
BIOL 197 Heredity	3	Spr: FULL	41956 83912 67824	Lec 10 Lab 10 Lab 11	0845-0950 1330-1655TR 1330-1655TR	BS B-121 BS B-121 BS B-105	E. Savage
BOT 199 Plant Biology	3	Spr: MAY6-24	65732 46838	Lec 30 Lab 30	1000-1220 1330-1655	BS B-521 BS CW-133	K. Denford/M. Dale
BOT 304 Field Botany	3	Sum: JUL2-19	47838 27838	Lec 60 Lab 60	1000-1220 1330-1700	BS B-521 BS B-521	R. Currah
BOT 383 Biology of Economic Plants	3	Spr: MAY27-JUN14	04354	Lec 30	1000-1220	BS B-105	D. Cass
BUS 379 Business Policy	3	Spr: FULL Restricted to Business students. Other students require written approval of their faculty and consent of the Faculty of Business 2-20 Business Bldg.	13419	Lec 10	0800-0950MWF	BUS B-06	S. Scott-Hallam
BUS 379 Business Policy	3	Spr: FULL Restricted to Business students. Other students require written approval of their faculty and consent of the Faculty of Business 2-20 Business Bldg.	26838	Lec 11	1000-1150MWF	BUS B-10	S. Scott-Hallam
CANST 302 Canada's North: The Human Dimension	3	Spr: FULL	17014	Lec 10	1000-1250TR	HC L-04	S. Smith
CHEM 100 Introductory University Chemistry	6	Spr: FULL	93115 14115 53115	LEC 20 SEM 20 LAB 20	1000-1220 1300-1405 1415-1730	C E5-36 C E5-36 C E1-40	TBA
CHEM 103 Introductory University Chemistry I	3	Spr: MAY6-24 CHEM 100, 103 and 105 are taught in conjunction.	88104 19104 58104	Lec 20 Sem 20 Lab 20	1000-1220 1300-1405 1415-1730	C E5-36 C E5-36 C E1-40	TBA
CHEM 105 Introductory University Chemistry II	3	Spr: MAY27-JUN14 CHEM 100, 103 and 105 are taught in conjunction.	40204 00204	Lec 30 Lab 30	1000-1220 1415-1730	C E5-36 C E1-40	TBA
CHEM 160 Organic Chemistry	6	Spr: FULL CHEM 160 and CHEM 260 will be taught in conjunction.	51204 11204	Lec 20 Lab 20	1000-1220 1330-1645	C E4-36 C E1-40	TBA
CHEM 260 Organic Chemistry	6	Spr: FULL CHEM 160 and CHEM 260 will be taught in conjunction.	52204 32204	Lec 20 Lab 20	1000-1220 1330-1645	C E4-36 C E1-40	TBA
CHINA 350 The Chinese Language in its Cultural Setting I	6	Spr: MAY1-JUN30 Closed to telephone registration. Consent of East Asian Languages and Literatures Department (4th Floor Arts Bldg.) required. China 350 and China 450 will be offered in conjunction.	X40120	Lbl 30	ALL DAY	CHINA	L.F. Leung/H.L. Mao
CHINA 450 The Chinese Language in its Cultural Setting II	6	Spr: MAY1-JUN30 Closed to telephone registration. Consent of East Asian Languages and Literatures Department (4th Floor Arts Bldg.) required. China 350 and China 450 will be offered in conjunction.	X17108	Lbl 30	ALL DAY	CHINA	L.F. Leung/H.L. Mao

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
CHRTC 266 New Testament Themes	3	Sum: FULL Offered by St. Joseph's College	94306	Lec 40	0845-0950	SJ 102	F. Magennis
CHRTC 292 Spirituality for Today's Christian	3	Spr: FULL Offered by St. Joseph's College	43519	Lec 10	1830-2120TR	SJ 102	L. Zdunich
CHRTC 349 Christianity and Social Justice in Canada	3	Spr: FULL Offered by St. Joseph's College	85456	Lec 10	1115-1220	SJ 103	R. McKeon
CHRTC 351 The Christian Meaning of Sex and Marriage	3	Spr: FULL Offered by St. Joseph's College	94904	Lec 10	1000-1105	SJ 102	G. Mackinnon
CHRTC 352 Medical-Moral Problems	3	Spr: FULL Offered by St. Joseph's College	80214	Lec 10	0845-0950	ED 106	J. Perry
CHRTC 352 Medical-Moral Problems	3	Spr: FULL Open to Misericordia Hospital Nursing students only. Offered by St. Joseph's College and taught from within the Roman Catholic tradition.	60428	Lec 11	TBA	MISERICORD.HOSP	P. Flaman
CHRTC 411 Topics In Christian Unity	3	Sum: FULL Students registering in this course should contact R. Barringer; SJ 1-36 (492-7681). Offered by St. Joseph's College	64947	Lec 40	1000-1105	SJ 102	R. Barringer
CL TX 430 Selected Topics in Textile Design: Peruvian Textiles	3	Spr: MAY27-JUN14 Pre-session study is required. See "Pre-Session Study" section following this timetable.	00436 39336	Lec 30 Lab 30	1000-1220 1330-1655	HEC B-16 HEC 126	M. Frame
CL TX 433 Selected Topics in Textile and Apparel Merchandising	3	Spr: MAY6-24	76433	Lec 30	1000-1220	HEC B-16	P. Rosstodd
CL TX 517 Selected Topics: Clothing Function and Comfort	3	Spr: FULL Pre-session study is required. See "Pre-Session Study" section following this timetable.	91055 82110	Lec 10 Lab 10	0845-0950 1300-1630TR	HEC B-16 HEC 126	E.M. Crown H. Perkins
CLASS 102 Greek and Roman Mythology	3	Spr: FULL	18838	Lec 10	1000-1105	HC L-02	C. Hawryluk
CLASS 110 Early World History I	3	Spr: FULL	58353	Lec 10	0845-0950	HC L-02	J. Rossiter
CLASS 141 Ancient Science and Technology	3	Spr: FULL	35154	Lec 10	1115-1220	HC 2-12	L. Morin
CLASS 201 Literature of Greece and Rome	3	Spr: FULL	90436	Lec 10	1500-1605	HC 1-07	M. Hertwig-Jaksch

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
CLASS 250 The Greek World	3	Spr: FULL	27131	Lec 10	1115-1220	HC 2-25	L. Stirling
CLASS 251 The Roman World	3	Sum: FULL	68725	Lec 40	1000-1105	HC L-04	C. Hawryluk
CLASS 367 Archaic and Classical Greek Art	3	Sum: FULL	04436	Lec 40	0845-0950	HC 1-15	M. Williams
CLASS 368 Hellenistic and Roman Art	3	Sum: FULL	63642	Lec 40	1115-1220	HC 2-21	M. Williams
CLASS 475 Practical Methods in Classical Archaeology	3	Sum: JUN17-JUL6	X65030	Lb1 60	All Day	ITALY	A. Small

Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. Prerequisite: Consent of the Department of Classics (1-17 Humanities Centre) CLASS 475/476 and 602 will be taught in conjunction. Interested students should refer to the Details of courses section of this calendar and also the Special Programs section.

CLASS 475 Practical Methods in Classical Archaeology	3	Sum: JUL8-26	X30060	Lb1 61	All Day	ITALY	M. Gualtieri

Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. Prerequisite: Consent of the Department of Classics(1-17 Humanities Centre) CLASS 475/476 and 602 will be taught in conjunction. Interested students should refer to the details of courses section of this calendar and also the Special Programs section.

CLASS 476 Advanced Field Techniques in Classical Archaeology	3	Sum: JUN17-JUL6	X12718	Lb1 60	All Day	ITALY	A. Small

Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. Prerequisite: Consent of the Department of Classics (1-17 Humanities Centre). CLASS 475/476 and 602 will be taught in conjunction. Interested students should refer to the details of courses section of this calendar and also the Special Programs section.

CLASS 476 Advanced Field Techniques in Classical Archaeology	3	Sum: JUL8-26	X25436	Lb1 61	All Day	ITALY	M. Gualtieri

Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. Prerequisite: Consent of the Department of Classics (1-17 Humanities Centre). CLASS 475/476 and 602 will be taught in conjunction. Interested students should refer to the details of courses section of this calendar and also the Special Programs section.

CLASS 602 Studies in Classical Archaeology II	3	Sum: JUN17-JUL6	X32511	SEM 60	All Day	ITALY	A. Small

Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. Prerequisite: Consent of the Department of Classics (1-17 Humanities Centre). CLASS 475/476 and 602 will be taught in conjunction. Interested students should refer to the details of courses section of this calendar and also the Special Programs section.

CLASS 602 Studies in Classical Archaeology II	3	Sum: JUL8-26	X65022	SEM 61	All Day	ITALY	M. Gualtieri

Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. Prerequisite: Consent of the Department of Classics (1-17 Humanities Centre). CLASS 475/476 and 602 will be taught in conjunction. Interested students should refer to the details of courses of this calendar and also the Special Programs section.

CMPUT 114 Introduction to Computing Science	3	Spr: FULL	02452	Lec 10	0845-0950	CME 345	TBA
			04904	Lab 10	1000-1145	AH 1-02	
			09808	Lab 11	1200-1345	AH 1-02	

Students registering in this course are advised not to register in other courses in the same term.

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
CMPUT 115 Programming and Data Structures	3	Sum: FULL	02925	Lec 40	0845-0950	CME 345	TBA
			05851	Lab 40	1000-1145	AH 1-02	
			11702	Lab 41	1200-1345	AH 1-02	
		Students registering in this course are advised not to register in other courses in the same term.					
CMPUT 157 Introduction to Computing for Business Applications	3	Spr: FULL	35555	Lec 10	0845-0950	CAB 281	TBA
			71110	Lab 10	1000-1145	BUS 1-06	
			42220	Lab 11	1200-1345	BUS 1-06	
		Students registering in this course are advised not to register in other courses in the same term.					
CMPUT 161 Introduction to Computation	3	Spr: FULL	96707	Lec 10	0845-0950	CAB 239	TBA
			86828	Lab 10	1000-1145	CAB 379	
			73656	Lab 11	1000-1145	CAB 385	
			47312	Lab 12	1200-1345	CAB 379	
			94624	Lab 13	1200-1345	CAB 385	
		Students registering in this course are advised not to register in other courses in the same term. Not open to students in the Faculty of Science.					
CMPUT 161 Introduction to Computation	3	Sum: FULL	93414	Lec 40	0845-0950	CAB 239	TBA
			89248	Lab 40	1000-1145	CAB 379	
			78496	Lab 41	1000-1145	CAB 385	
			56992	Lab 42	1200-1345	CAB 379	
			13984	Lab 43	1200-1345	CAB 385	
		Students registering in this course are advised not to register in other courses in the same term. Not open to students in the Faculty of Science.					
CMPUT 169 Structured Programming and Data Structures	3	Spr: FULL	25346	Lec 10	0845-0950	CAB 273	TBA
			50692	Lab 10	1000-1145	AH 1-50	
			01384	Lab 11	1200-1345	AH 1-50	
		Students registering in this course are advised not to register in other courses in the same term.					
CMPUT 172 Formal Systems and Logic in Computing Science	3	Sum: FULL	31451	Lec 40	1330-1435	CAB 335	TBA
			62903	Sem 40	1445-1555MR	CAB 335	
		Students registering in this course are advised not to register in other courses in the same term.					
CMPUT 225 Programming Languages I	3	Spr: FULL	50301	Lec 10	0845-0950	CAB 335	TBA
			00602	Lab 10	1200-1310	GSB 211	
			01204	Sem 10	1000-1110MW	CAB 377	
		Students registering in this course are advised not to register in other courses in the same term.					
CMPUT 251 Introduction to Programming for Scientific Applications	3	Sum: FULL	21103	Lec 40	0845-0950	GSB 811	TBA
			42206	Lab 40	1000-1145	AH 1-50	
			84412	Lab 41	1200-1345	AH 1-50	
		Students registering in this course are advised not to register in other courses in the same term.					
CMPUT 291 Introduction to File Management	3	Sum: FULL	09418	Lec 40	0845-0950	CAB 269	TBA
			18836	Lab 40	1000-1145	GSB 217	
		Students registering in this course are advised not to register in other courses in the same term.					
CMPUT 340 Introduction to Numerical Methods	3	Sum: FULL	27213	Lec 40	0845-0950	CAB 273	TBA
			54426	Lab 40	1200-1345	AH 1-26	
			08852	Lab 41	1400-1545	AH 1-26	
			17704	Sem 40	1000-1110MW	CAB 343	
		Students registering in this course are advised not to register in other courses in the same term.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
CU ME 339 Enseignement de la musique au niveau élémentaire I	3	Sum: JUL29-AUG9	79846	Lbl 60	0900-1200 And 1315-1500	FSJ FSJ	TBA
CU ME 347 Introduction a l'ordinateur en education	3	Sum: JUL15-26	66052 32104	Lec 60 Lab 60	0900-1200 1315-1430	FSJ FSJ	M. Thouin
CU ME 350 Enseignement du français dans les classes d'immersion tardive au niveau secondaire	3	Spr: FULL	43422	Lec 10	0845-0950	FSJ	F. Bourque
CU ME 496 L'enseignement religieux et l'éducation morale	3	Sum: JUL29-AUG9	90558	Lec 60	0900-1200 And 1315-1500	FSJ FSJ	TBA
CU ME 500 Théorie générale de curriculum: contexte écoles françaises en milieu minoritaire et écoles d'immersion	3	Sum: JUL2-12 Réservé aux enseignants	89515	Lec 60	0900-1200 And 1315-1500	FSJ FSJ	S. Weber
CU ME 501 Développement, implantation et évaluation des programmmes en immersion et dans les écoles françaises en milieu minoritaire	3	Sum: JUL15-26 Réservé aux enseignants	79451	Lec 60	0900-1200 And 1315-1430	FSJ FSJ	H. Hébert
DANCE 255 Social Dance	1.5	Spr: MAY6-24 For male students only. Practice session from 1320-1400. Taught in conjunction with Dance 255 Lbl 31.	21007	Lbl 30	1200-1320	PE E-19	TBA
DANCE 255 Social Dance	1.5	Spr: MAY6-24 For female students only. Practice session from 1320-1400. Taught in conjunction with Dance 255 Lbl 30.	42014	Lbl 31	1200-1320	PE E-19	TBA
DANCE 260 Jazz Dance	1.5	Spr: MAY6-24 Practice session from 1120-1200.	13943	Lbl 30	1000-1120	PE E-19	TBA
DANCE 340 Modern Dance	3	Spr: MAY27-JUN14	75056	Lec 30	1000-1220	PE E-19	TBA
DANCE 355 Social Dance	3	Spr: MAY27-JUN14 For male students only. Taught in conjunction with Dance 355 Lec 31.	28035	Lec 30	1230-1450	PE E-19	TBA
DANCE 355 Social Dance	3	Spr: MAY27-JUN14 For female students only. Taught in conjunction with Dance 355 Lec 30.	56070	Lec 31	1230-1450	PE E-19	TBA

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
DENT 521 Orthodontic Pre-clinical Lectures	3	Spr: FULL	35057	Lec 10	0800-0900	DP 4043	K. Glover
DENT 524 Orthodontic Seminar	3	Spr: FULL	86820	Sem 10	1300-1600	DP 4043	K. Glover
DENT 528 Surgical/Functional Appliances	1	Spr: MAY6-AUG9	84655	Lec 30	0800-0900	DP 4043	K. Glover
DENT 529 Adult Orthodontics	1	Spr: MAY6-AUG9	74106	Lec 30	0800-0900	DP 4043	K. Glover
DENT 531 Orthodontic Clinic	5	Spr: MAY6-AUG9	30137	Cln 30	1300-1600	DP 4053	K. Glover
DENT 538 Surgical/Functional Appliances	1	Spr: MAY6-AUG 9	08053	Cln 30	1300-1600	DP 4053	W. Pawliuk
DENT 539 Adult Orthodontics	1	Spr: MAY6-AUG9	64348	Cln 30	0800-0900	DP 4053	K. Glover
DENT 623 Adult Orthodontics	1	Spr: MAY6-AUG 9	48354	Lec 30	0800-0900	DP 4043	K. Glover
DENT 631 Orthodontic Clinic	5	Spr: MAY6-AUG9	60435	Cln 30	1300-1600	DP 4053	K. Glover
DENT 633 Adult Orthodontics	1	Spr: MAY6-AUG9	63203	Cln 30	1300-1600	DP 4053	K. Glover
DENT 635 Surgical/Functional Appliances	1	Spr: MAY6-AUG9	96342	Cln 30	1300-1600	DP 4053	K. Glover
DENT 699 Research Project	6	Spr: FULL	02827	Lab 20	TBA	TBA	TBA
DRAMA 102 Play Analysis	3	Sum: FULL	90618	Lec 40	1000-1105	FAB 2-47	J. Hinton-Mann
DRAMA 149 Introduction to Dramatic Process	3	Spr: FULL Not available to those with credit in Drama 251.	08701	Lbl 10	0900-1140	FAB 3-121	G. Dowler-Coltman
DRAMA 149 Introduction to Dramatic Process	3	Sum: FULL Not available to those with credit in Drama 251.	17402	Lbl 40	0900-1140	FAB 3-121	TBA

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
DRAMA 247 Introduction to and Development of Oral Communication	3	Spr: FULL	46611	Lbl 10	0900-1140	HC 1-03	B. Moulton
		Not to be taken by students with credit in Drama 243/245/341/342.					
DRAMA 247 Introduction to and Development of Oral Communication	3	Sum: FULL	93222	Lbl 40	0900-1140	FAB 2-48	G. Campbell
		Not to be taken by students with credit in Drama 243/245/341/342.					
DRAMA 304 History of the Theatre	6	Spr: FULL	41831	Lec 20	1630-1850	HC 1-03	A. Hawkins
DRAMA 353 Scene Study I	3	Sum: FULL	94552	Lbl 40	0900-1140	FAB 3-125	K. Handerek
DRAMA 379 Introduction to Stagecraft and Design	3	Spr: FULL	42923	Lec 10	1000-1105	FAB 2-47	L. Livingstone
DRAMA 492 Running Crew Projects	3	Spr: FULL	60546	Lab 10	TBA	FAB 2-47	A. Welch
		Students registering in this course should contact A. Welch the Drama Department (3-146 Fine Arts Bldg., 492-1088).					
DRAMA 492 Running Crew Projects	3	Sum: FULL	15831	Lab 40	TBA	FAB 2-47	A. Welch
		Students registering in this course should contact A. Welch the Drama Department (3-146 Fine Arts Bldg., 492-1088).					
ECON 101 Introduction to Microeconomics	3	Spr: FULL	85958	Lec 10	0845-0950	T 1-91	S. Sharir
ECON 101 Introduction to Microeconomics	3	Sum: FULL	71916	Lec 40	0845-0950	T 1-91	D. Eldor
ECON 102 Introduction to Macroeconomics	3	Spr: FULL	34206	Lec 10	1115-1220	T 1-91	TBA
ECON 102 Introduction to Macroeconomics	3	Sum: FULL	68412	Lec 40	1115-1220	T 1-93	D. Eldor
ECON 311 Chinese Economic Development	3	Spr: FULL	44705	Lec 10	1330-1435	T 1-05	X. Dong
ECON 318 An Introduction to Canadian Economic Development I	3	Sum: FULL	04134	Lec 40	0845-0950	T 1-05	M. Weber

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
ECON 323 International Economics	3	Spr: FULL	29433	Lec 10	1000-1105	T B-76	A. Kwan
ECON 341 Money and Banking	3	Spr: FULL	14954	Lec 10	0845-0950	T 1-93	C. Nunn
ECON 373 Industrial Organization	3	Spr: FULL	19051	Lec 10	1115-1220	T 1-96	V. Vipond
ECON 381 Intermediate Microeconomic Theory	3	Spr: FULL	09831	Lec 10	1115-1220	T 1-93	C. Nunn
ECON 381 Intermediate Microeconomic Theory	3	Sum: FULL	19662	Lec 40	1000-1105	T 1-91	T. Snoddon
ECON 382 Intermediate Macroeconomic Theory	3	Spr: FULL	70758	Lec 10	0845-0950	T BW-01	B. Reid
ECON 382 Intermediate Macroeconomic Theory	3	Sum: FULL	41516	Lec 40	1115-1220	T 1-91	G. Szava-Kovats
ECON 399 Introductory Econometrics	3	Sum: FULL	15253 30506	Lec 40 Lab 40	0845-0950 1000-1110TR	T B-39 T B-39	D. Young
ECON 421 International Trade	3	Sum: FULL	00817	Lec 40	1000-1105	T B-113	Y. Xu
ECON 481 Advanced Microeconomic Theory	3	Spr: FULL	65218	Lec 10	1115-1220	T 1-105	S. Sharir
ECON 482 Advanced Macroeconomic Theory	3	Spr: FULL	35135	Lec 10	1115-1220	T 1-107	B. Reid
ED EL 405 The Reading Process: Theory and Observation	3	Sum: JUL2-19	72313	Lec 60	1000-1220	ED 262	TBA
ED EL 406 Reading in Early Childhood Education	3	Sum: FULL	23313	Lec 40	1330-1435	ED 213	TBA
ED EL 407 Reading in Upper Elementary School	3	Spr: FULL	94436	Lec 10	1800-2050TR	ED 276	TBA

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
ED EL 411 Language Across the Curriculum in the Elementary School	3	Spr: FULL	75436	Lec 10	1800-2050MW	ED 228	TBA
ED EL 420 Curriculum and Instruction in Elementary School Physical Education	3	Spr: MAY6-24	96436	Lec 30	1830-2120MTWR	ED 176	G. Fishburne
ED EL 450 Introduction to the Teaching of English as a Second Language	3	Sum: JUL2-19	93313	Lec 60	0900-1120	ED 107	TBA
ED EL 451 Methods and Programs in the Teaching of English as a Second Language	3	Sum: JUL22-AUG9	44313	Lec 60	0900-1120	ED 107	TBA
ED EL 457 Curriculum and Instruction in Early Childhood Education	6	Sum: FULL	15313 05313	Lec 50 Lab 50	1300-1620 0900-1215	ED 203 RH3	TBA
		A valid teaching certificate and one year of classroom experience is required.					
ED EL 496 Group Projects in Elementary Education II: Canadian Literature for Young People in Schools and Libraries	3	Spr: FULL	65313	Sem 10	1800-2050TR	RS 3-22	S. Mikalonis
		ED EL 496-Sem 10 and ED EL 595-Sem 10 will be taught in conjunction.					
ED EL 496 Group Projects in Elementary Education II: Language Arts Through Drama	3	Spr: FULL	75313	Sem 11	1800-2050MW	ED 315	P. Payne
		Open to certified teachers. Taught in conjunction with ED EL 595 Sem 11. Grading to be used will be credit/no credit.					
ED EL 496 Group Projects in Elementary Education II: Producing Art and Responding to Art in the Elementary Schools	3	Spr: FULL	85313	Sem 12	1830-2120MW	ED 423	B. Schwartz
ED EL 496 Group Projects in Elementary Education II: Computers in Language Arts	3	Sum: JUL22-AUG9	16313	Sem 60	1000-1220	ED 170	TBA
		Taught in conjunction with ED EL 595 Sem 60					
ED EL 505 Theories of Language Processing	3	Spr: FULL	96313	Lec 10	1730-2020TR	ED 327	R.Mckay
		Pre-session study is required. See "Pre-Session Study" section following this timetable.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
ED EL 510 Curriculum and Instruction in Children's Literature for Elementary Schools	3	Sum: JUL2-19	93412	Sem 60	1330-1550	ED 107	TBA
ED EL 560 Foundations of Curriculum Development	3	Sum: JUL2-19	08313	Lec 60	1000-1220	ED 158	TBA
ED EL 567 Introduction to Educational Research	3	Sum: JUL22-AUG9	22009	Sem 60	1000-1220	ED 113	TBA
ED EL 595 Seminar in Elementary Education: Canadian Literature for Young People in Schools and Libraries	3	Spr: FULL ED EL 595 SEM 10 and ED EL 496 Sem 10 will be taught in conjunction	99313	Sem 10	1800-2050TR	RS 3-22	S. Mikalonis
ED EL 595 Seminar in Elementary Education: Language Arts Through Drama	3	Spr: FULL ED EL 595 SEM 11 and ED EL 496 Sem 11 will be taught in conjunction. Grading to be used will be credit/no credit.	90413	Sem 11	1800-2050MW	ED 315	P. Payne
ED EL 595 Seminar in Elementary Education: Intelligent Learning of Mathematics from an Advanced Viewpoint	3	Spr: SEE NOTE This class will meet Tuesdays beginning March 5, 1991 to May 7, 1991 from 1800-2050. The final week of classes will be May 13-16, 1991 when classes will be held daily from 1800-2050.	11413	Sem 30	See Note	ED 934	R. Skemp
ED EL 595 Seminar in Elementary Education: Computers in Language Arts	3	Sum: JUL22-AUG9 Taught in conjunction with ED EL 496 Sem 60	61413	Sem 60	1000-1220	ED 170	TBA
ED EL 595 Seminar in Elementary Education: Writing Workshop for Elementary Teachers	3	Sum: JUL22-AUG9	81413	Sem 61	1000-1220	ED 262	J. Edwards
ED EL 595 Seminar in Elementary Education: School Library Services for French Immersion Programs	3	Sum: JUL8-19 Prerequisite: One course in school librarianship or one year of school library work experience.	12413	Sem 62	0900-1245	FSJ	L. Davis
ED EL 596 Special Seminars in Elementary Education: An Introducation to Intelligent Learning of Mathematics	2	Sum: JUL8-12	53413 62413	Lec 60 Lab 60	0830-1020 1030-1230	ED 934 ED 170	R. Johnson

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
ED EL 596 Special Seminars in Elementary Education: Estimation and Mental Computation for Elementary School Children	2	Sum: JUL15-19	14413 72413	Lec 61 Lab 61	0830-1020 1030-1230	ED 934 ED 934	K. Willson
ED EL 596 Special Seminars in Elementary Education: Effective Teaching in the Classroom	3	Sum: JUL2-19	63009	Lec 62	1330-1550	ED 128	TBA
ED EL 696 Conference Course in Elementary Education: Collaborative Autobiography in Teacher Development as a Research Methodology	6	Sum: SEE NOTE	56412	Lec 60	See Note	ED 533	R. Butt
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Priority to students in doctoral and master's programs. Students are advised not to register in other courses in the Summer Term. Details regarding class meeting times is included in pre-session study material.					
ED ES 443 School Librarianship	3	Sum: JUL2-19	82823	Lec 60	0730-0950	ED 327	G. Maguire
ED ES 546 School Library Information Materials	3	Sum: JUL22-AUG9	84413	Lec 60	1000-1220	ED 327	J. Mentz
ED PR 454 Student Teaching At Post-Secondary Level: I	3	Spr: FULL	X11538	Lab 10	TBA	N.A.I.T.	TBA
		Closed to telephone registration. Consent of Department required. Restricted to students in Adult Career and Technology routes. Contact Adult, Career and Technology Education;633 Educ S; 492-3678 for registration information and procedures.					
ED PR 454 Student Teaching At Post-Secondary Level: I	3	Spr: FULL	X23076	Lab 11	TBA	SLAVE LAKE	TBA
		Closed to telephone registration. Consent of Department required. Restricted to students in Vocational/Industrial Arts routes. Contact the Department of Adult, Career and Technology Education; 633 Educ S; 492-3678 for registration information and procedures.					
EDACT 245 Introduction to Vocational Technical Education	3	Sum: AUG12-30	64111	Lec 60	1000-1220	ED 177	TBA
		Restricted to students in Vocational Education.					
EDACT 274 Introduction to Microcomputers in Education	3	Sum: JUL2-19	78627	Lec 60	1000-1220	ED 377	P. Wright
			57254	Lab 60	0730-0950M-F	ED N1-126	
			14508	Lab 61	1330-1550M-F	ED N2-123	
			29019	Lab 62	1600-1820M-F	ED N2-101	
		Students registering in Lec 60 must also take one of Lab 60, Lab 61 or Lab 62. Open to certified teachers through the Unclassified Student category; photocopy of certificate must be provided. (Students seeking entry through the Unclassified Student category should contact the Adult, Career and Technology Education Department at 492-3678 for registration assistance.)					
EDACT 404 Developmental Course: Computer Based Learning	3	Sum: JUL22-AUG9	43048	Lec 60	1000-1220	ED 380	W. Latta
		The use of Apple II series computers for Computer Aided Instruction and Computer Managed Instruction. EDACT 404-Lec 60 and EDACT 503-Lec 60 will be taught in conjunction. Open to certified teachers through the Unclassified Student category; photocopy of certificate must be provided. (Students seeking entry through the Unclassified Student category should contact the Adult, Career and Technology Education Department at 492-3678 for registration assistance.)					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
EDACT 404 Developmental Course: Introduction to Adult Education	3	Sum: JUL22-AUG9	86096	Lec 61	1000-1220	ED N2-117	TBA
		Open to all Masters or Diploma students in the Faculty of Education.					
EDACT 485 Performance Evaluation in Industrial and Vocational Education	3	Spr: FULL	65413	Lec 10	TBA	S.A.I.T.	TBA
		Restricted to students in the Adult Education Program. This course is being delivered off-campus. Contact the Department of Adult, Career and Technology Education; 633 Educ S; 492-3678 for registration information and procedures.					
EDACT 496 Individual Directed Study: Visual Imaging in Media	3	Spr: MAY6-24	96413	Lec 30	1000-1220	ED NB-131	D. Engel
		This course will be taught in conjunction with EDACT 587 Lec 30. Prerequisite: EDMDA 351 or consent of Department. Students are advised not to register in other courses during the Spring Term.					
EDACT 498 Individual Directed Laboratory Study: Interactive Media	3	Sum: JUL2-19	16825	Lec 60	1000-1220	ED NB-131	J. Lafollette
			33650	Lab 60	TBA	ED NB-131	
		This course will develop the use of interactive video disk and will be taught in conjunction with EDACT 585 Lec 60. Prerequisite: EDMDA 351 or consent of department. Students are encouraged not to register in other courses during this Summer Term.					
EDACT 503 Special Topic: Topics in Computer Based Instruction	3	Spr: FULL	37906	Lec 10	1330-1435	ED 164	M. Szabo
EDACT 503 Special Topic: Computer Based Learning	3	Sum: JUL22-AUG9	75812	Lec 60	1000-1220	ED 380	W. Latta
		EDACT 503-Lec 60 and EDACT 404-Lec 60 will be taught in conjunction. Open to certified teachers through the Unclassified Student category; photocopy of certificate must be provided. (Students seeking entry through the Unclassified Student category should contact the Adult, Career and Technology Education Department; 633 Educ S; 492-3678 for registration information and procedures.					
EDACT 503 Special Topic: Career and Technology Studies	3	Sum: JUL2-19	64823	Lec 61	1330-1550	ED 177	TBA
		This course will explore new curriculum developments in Alberta Education and will be of interest to teachers in the practical arts.					
EDACT 585 Individual Directed Laboratory Study: Interactive Media	3	Sum: JUL2-19	85009	Lec 60	1000-1220	ED NB-131	J. Lafollette
			75009	Lab 60	TBA	TBA	
		This course will develop the use of interactive video disk and will be taught in conjunction with EDACT 498 Lec 60. Prerequisite: EDMDA 351 or consent of department. Students are encouraged not to register in other courses during this Summer Term.					
EDACT 587 Individual Directed Study: Visual Imaging in Media	3	Spr: MAY6-24	86833	Lec 30	1000-1220	ED NB-131	D. Engel
EDACT 591 Problems and Trends in Industrial and Vocational Education	3	Spr: FULL	77125	Lec 10	TBA	CALGARY	TBA
EDADM 401 The Role of the Teacher	3	Spr: FULL	54851	Lec 10	0845-1135MW	ED N2-147	TBA
		Restricted to 4th year Education students who will be completing teacher certification and/or B.Ed. degree requirements by August, 1991.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
EDADM 401 The Role of the Teacher	3	Spr: FULL Restricted to 4th year Education students who will be completing teacher certification and/or B.Ed. degree requirements by August, 1991.	09702	Lec 11	1800-2050TR	ED N2-149	TBA
EDADM 401 The Role of the Teacher	3	Spr: MAY6-24 Restricted to 4th year Education students who will be completing teacher certification and/or B.Ed. degree requirements by August, 1991.	19404	Lec 30	1000-1220	ED 221	J. Ell
EDADM 401 The Role of the Teacher	3	Spr: MAY6-24 Restricted to 4th year Education students who will be completing teacher certification and/or B.Ed. degree requirements by August, 1991	38808	Lec 31	1000-1220	ED 213	M. Pansegrau
EDADM 401 The Role of the Teacher	3	Spr: MAY27-JUN14 Restricted to 4th year Education students who will be completing teacher certification and/or B.Ed. degree requirements by August 1991.	77616	Lec 32	1000-1220	ED N2-145	M. Pansegrau
EDADM 401 The Role of the Teacher	3	Spr: MAY27-JUN14 Restricted to 4th year Education students who will be completing teacher certification and/or B.Ed. degree requirements by August, 1991.	55232	Lec 33	1000-1220	ED N2-123	J. Ell
EDADM 401 The Role of the Teacher	3	Spr: MAY6-24 Restricted to 4th year Education students who will be completing teacher certification and/or B.Ed. degree requirements by August, 1991.	10464	Lec 34	1330-1550	ED N2-145	J. Jeffrey
EDADM 401 The Role of the Teacher	3	Spr: MAY27-JUN14 Restricted to 4th year Education students who will be completing teacher certification and/or B.Ed. degree requirements by August, 1991.	20928	Lec 35	1330-1550	ED N2-139	J. Jeffrey
EDADM 401 The Role of the Teacher	3	Sum: JUL2-19 Restricted to 4th Year Education students who will be completing certification and/or B.Ed. degree requirements by August, 1991.	41856	Lec 60	1330-1550	ED N2-145	TBA
EDADM 501 Evolving Concepts in Educational Administration	3	Sum: JUL2-19 Restricted to M.Ed. and Ph.D. students in Educational Administration.	80443	Lec 60	1000-1220	ED N7-102	M. Andrews
EDADM 501 Evolving Concepts in Educational Administration	3	Sum: JUL2-19 Restricted to M.Ed. and Ph.D. students in Educational Administration.	60886	Lec 61	1000-1220	ED N7-114	G. McIntosh
EDADM 502 Administrative Processes in Education	3	Sum: JUL22-AUG9 Restricted to M.Ed. and Ph.D. students in Educational Administration.	58838	Lec 60	1000-1220	ED N7-102	J. Moylan
EDADM 502 Administrative Processes in Education	3	Sum: JUL22-AUG9 Restricted to M.Ed. and Ph.D. students in Educational Administration.	17676	Lec 61	1000-1220	ED N7-114	TBA
EDADM 505 Selected Topics in Educational Administration I: Local Control of Native Education	3	Sum: JUL2-19 Restricted to Diploma, M.Ed., Ph.D. and Post-Graduate Diploma students.	61526	Lec 60	0730-0950	ED N7-140	W. Thomas

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
EDADM 505 Administrative Issues in French Language Education in Alberta (Questions relatives a l'administration de l'éducation française en Alberta)	3	Sum: JUL2-19	23052	Lec 61	1000-1220	ED N1-107	C. Tardif
		This course is offered in French. A good comprehension of oral and written French is required. Some written work in English may be acceptable upon prior agreement with the instructor. (Faculte St.Jean; 465-8752). Restricted to M.Ed., Ph.D. and Diploma students.					
EDADM 506 Selected Topics in Educational Administration II: Women in Educational Administration	3	Sum: JUL2-19	01757	Lec 60	1330-1550	ED N7-114	J. Moylan
		Restricted to Diploma, M.Ed., Ph.D. and Post-Graduate Diploma students in Educational Administration.					
EDADM 511 Research Design and Data Analysis I	3	Sum: JUL2-19	X04237	Lec 60	1330-1550	ED N2-119	D. Richards
			X08474	Lab 60	Individual Study	TBA	
		Closed to telephone registration. Restricted to Modified Residence Program students in Educational Administration. Students registering in EDADM 511-Lec 60 must also register in EDADM 511-Lab 60, EDADM 512-Lec 60 and EDADM 512-Lab 60. (Contact Educational Administration for registration assistance; 7-104 Educ N; 492-5241)					
EDADM 512 Research Design and Data Analysis II	3	Sum: JUL22-AUG9	X90031	Lec 60	1330-1550	ED N7-114	D. Richards
			X80062	Lab 60	Individual Study	TBA	
		Closed to telephone registration. Restricted to Modified Residence Program students in Educational Administration. Students registering in EDADM 512-Lec 60 must also register in EDADM 512-Lab 60, EDADM 511-Lec 60 and EDADM 511-Lab 60. (Contact Educational Administration for registration assistance; 7-104 Educ N; 492-5241)					
EDADM 515 Research Projects I: Program Evaluation	3	Spr: FULL	19718	Lec 10	1800-2050TR	ED N7-140	J. Fris
			78872	Lab 10	Individual Study	TBA	
		Restricted to non-thesis M.Ed. students in Education Administration. Consent of the Educational Administration Department (7-104 Educ N; 492-5241) required.					
EDADM 515 Research Projects I: Program Evaluation	3	Spr: MAY 6-24	39436	Lec 30	1000-1220	ED N7-140	D. MacKay
			57744	Lab 30	Individual Study	TBA	
		Restricted to M.Ed. and Ph.D. students.					
EDADM 516 Research Project II: Practicum: Program Evaluation	3	Spr: MAY27-JUN14	67704	Lec 30	1000-1220	ED N7-140	D.A. MacKay
			35408	Lab 30	Individual Study	TBA	
		Restricted to M.Ed. and Ph.D. students. Students registering in EDADM 516-Lec 30 must have taken EDADM 515-Lec 30.					
EDADM 521 Supervision of Educational Personnel	3	Sum: JUL22-AUG9	X18209	Lec 60	0730-0950	ED N7-114	E. Holdaway
		Closed to telephone registration. Restricted to M.Ed. and Ph.D. students in Educational Administration. (Contact Educational Administration for registration assistance; 7-104 Educ N; 492-5241)					
EDADM 541 Planned Change in Educational Organizations	3	Sum: JUL2-19	22723	Lec 60	1000-1220	ED N7-140	D.A. MacKay
		Restricted to Diploma, M.Ed., Ph.D. and Post-Graduate Diploma students.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
EDADM 551 Administration of Public Education in Canada	3	Sum: JUL2-19	52945	Lec 60	0730-0950	ED N7-140	F. Peters
		Restricted to M.Ed. and Ph.D. students in Educational Administration.					
EDADM 553 Legal Aspects of Educational Administration	3	Spr: APR22-MAY31	33217	Lec 30	1800-2050TR	ED N1-110	F. Peters
		Restricted to M.Ed. and Ph.D. students. Students must register before April 17th. Students must contact instructor 492-7607 before registration.					
EDADM 565 Educational Finance	3	Spr: FULL	09746	Lec 10	1800-2050MW	ED N7-102	W. Duke
		Restricted to Diploma, M.Ed., Ph.D. and Post-Graduate Diploma students					
EDADM 565 Educational Finance	3	Sum: JUL2-19	19492	Lec 60	1330-1550	ED N7-102	W. Duke
		Restricted to Diploma, M.Ed., Ph.D. and Post-Graduate Diploma students					
EDADM 566 Operational Finance	3	Sum: JUL22-AUG9	43247	Lec 60	1330-1550	ED N7-102	W. Duke
		Restricted to Diploma, M.Ed., Ph.D. and Post-Graduate Diploma students.					
EDADM 571 The Organization of Postsecondary Education	3	Sum: JUL22-AUG9	76050	Lec 60	1330-1550	ED N7-140	H. Andrews
		Restricted to M.Ed. and Ph.D. students.					
EDADM 594 Seminar and Practicum in Administrative Behaviour II	3	Spr: MAY6-24	25209	Lec 30	0730-0950	ED N7-114	K. Ward
			00836	Lab 30	Individual Study	TBA	
		Restricted to M.Ed. students in Educational Administration. Consent of the Educational Administration Department (7-104 Educ N; 492-5241) required.					
EDADM 594 Seminar and Practicum in Administrative Behaviour II	3	Sum: JUL2-19	50418	Lec 60	0730-0950	ED N7-114	K. Ward
			01672	Lab 60	Individual Study	TBA	
		Restricted to Modified Residence Program students in Educational Administration. Consent of Educational Administration Department required. (Contact Educational Administration for registration assistance; 7-104 Educ N; 492-5241.)					
EDADM 595 The School Principalship: Seminars and Simulations	3	Sum: JUL22-AUG9	X16920	Lec 60	0730-0950	ED N7-140	W. Maynes
			X33842	Lab 60	Individual Study	TBA	
		Closed to telephone registration. Restricted to M.Ed. and Ph.D. students in Educational Administration. (Contact Educational Administration for registration assistance; 7-104 Educ N; 492-5241.)					
EDADM 672 Problems in Administration of Postsecondary Education II	3	Spr: FULL	65449	Lec 10	1330-1620MR	ED N7-114	E. Holdaway/M. Andrews
		Restricted to Ph.D. students in Educational Administration.					
EDADU 439 Methods and Programs in the Teaching of English as a Second Language to Adults	3	Sum: JUL22-AUG9	71318	Lec 60	1330-1550	ED 177	TBA
EDADU 521 Psychology of Learning and Teaching at the Adult Level	3	Spr: FULL	41440	Lec 10	1700-2000TR	ED 277	C. Kanchier
		Adult and Higher Education and Educational Psychology students may register if the course is on their approved program. All other students must contact the Department of Educational Psychology (6-102 Educ N; 492-5245).					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
EDADU 523 Administration of Further Education	3	Spr: FULL Restricted to Diploma, M.Ed., Ph.D., and Post-Graduate Diploma students in Ed Admin and Diploma and M.Ed. students in Dept. of Adult Career and Technology Education	97009	Lec 10	1800-2050MW	ED N7-114	M. Pansegrau
EDADU 551 Selected Topics in Adult Education: Continuing Professional Education.	3	Spr: MAY27-JUN14 Restricted to all masters and diploma students in Faculty of Education	53744	Lec 30	1000-1220	ED 170	TBA
EDADU 551 Selected Topics in Adult Education: Adult Education in Canada	3	Spr: MAY6-24	07488	Lec 31	1000-1220	ED 158	G. Selman
EDADU 551 Selected Topics in Adult Education: Community Adult Education	3	Sum: JUL2-19	14976	Lec 60	1000-1220	ED 164	B. Staples
EDADU 561 Curriculum Planning in Adult and Higher Education	3	Sum: JUL2-19	64547	Lec 60	1000-1220	ED 128	P. Brook
EDADU 577 Foundations of Adult and Higher Education	3	Spr: FULL	32817	Lec 10	1830-2115MW	ED 255	L. Orton
EDFDN 301 Education in Canada: Selected Topics	3	Spr: FULL Closed to telephone registration. Consent of Dept. of Educational Foundations required. Restricted to students convocating in Fall 1991. (Contact Educational Foundations for registration assistance; 5-109 Educ N; 492-3726.)	X39949	Lec 10	1330-1435	ED 177	N. Kach
EDFDN 301 Education in Canada: Selected Topics	3	Sum: FULL Restricted to 3rd and 4th year B.Ed. students, after-degree B.Ed. students, and transfer students with two years of credit.	X79898	Lec 40	1000-1105	ED 265	TBA
EDFDN 340 Concepts of Teaching and Schooling in History	3	Spr: FULL Restricted to Education students.	08625	Lec 10	0845-0950	ED 262	R. Pugh
EDFDN 341 Concepts in Childhood in History	3	Spr: FULL	14458	Lec 10	1330-1435	ED 255	J. Dawson
EDFDN 341 Concepts of Childhood in History	3	Sum: FULL	28916	Lec 40	1330-1435	ED 221	J. Dawson
EDFDN 350 The Ethics of Teaching	3	Spr: FULL	66013	Lec 10	0845-0950	ED 265	J. Munro

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
EDFDN 360 Society and Education	3	Spr: FULL	71602	Lec 10	1730-1835	ED N2-147	R. Runte
EDFDN 361 Sociology of Learning and Achievement	3	Spr: FULL Restricted to Education students.	48745	Lec 10	1000-1105	ED 277	R. Runte
EDFDN 361 Sociology of Learning and Achievement	3	Sum: FULL	97490	Lec 40	1115-1220	ED N1-126	R. Runte
EDFDN 401 Selected Topics in Educational Foundations: Literature and Education	3	Spr: FULL EDFDN 401-Lec 10 and EDFDN 501-Lec 10 will be taught in conjunction.	24651	Lec 10	1330-1435	ED 262	D. Wangler
EDFDN 431 The Education of Selected Minority Groups in Western Canada: An Historical Study	3	Spr: FULL	65352	Lec 10	0845-0950	ED N1-126	N. Kach
EDFDN 432 The Education of Native Peoples in Canada: An Historical Study	3	Spr: FULL	58858	Lec 10	1000-1105	ED N1-126	R. Carney
EDFDN 452 Education and Theories of Knowledge: A Philosophical Approach	3	Sum: JUL22-AUG9 EDFDN 452-60 and EDFDN 557-60 will be taught in conjunction	76831	Lec 60	1000-1220	ED N2-147	F. Walker
EDFDN 493 Basic Issues in Contemporary Education	3	Spr: FULL Restricted to 3rd and 4th year B.Ed., after-degree B.Ed students, and transfer students with two years of credit.	05914	Lec 10	1000-1105	ED N1-128	D. Wangler
EDFDN 493 Basic Issues in Contemporary Education	3	Spr: FULL Restricted to 3rd and 4th year B.Ed., after-degree B.Ed students, and transfer students with two years of credit.	11828	Lec 11	1830-1935	ED N1-128	TBA
EDFDN 493 Basic Issues in Contemporary Education	3	Sum: FULL Restricted to 3rd and 4th year B.Ed., after degree B.Ed students, and transfer students with two years of credit.	23656	Lec 40	0845-0950	ED 221	TBA
EDFDN 495 Developing a Philosophy of Education	3	Spr: FULL Restricted to 3rd and 4th year B.Ed., after degree B.Ed students, and transfer students with two years of credit.	15533	Lec 10	1330-1435	ED 277	J. Munro
EDFDN 501 Conference Course on Selected Topics: Literature and Education	3	Spr: FULL Restricted to graduate students and diploma students. Others require consent of department. EDFDN 401-Lec 10 and EDFDN 501-Lec 10 will be taught in conjunction. Open to certified teachers through the Unclassified Student category; photocopy of certificate must be provided. (Contact the Educational Foundations department for registration assistance; 5-109 Educ N; 492-3726.)	05417	Lec 10	1330-1435	ED 262	D. Wangler

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
EDFDN 501 Conference Course on Selected Topics: Global Education	3	Sum: FULL	10834	Lec 40	0845-0950	ED 255	I. Alladin
		Open to certified teachers through the Unclassified Student category: photocopy of certificate must be provided. (Contact the Department of Educational Foundations for registration assistance; 5-109 Educ N; 492-3726.)					
EDFDN 557 Learning and the Philosophy of Knowledge	3	Sum: JUL22-AUG9	82328	Lec 60	1000-1220	ED N2-147	F. Walker
		EDFDN 557-60 AND EDFDN 452-60 will be taught in conjunction.					
EDFDN 561 Community Education: A Sociological Perspective	3	Spr: FULL	05254	Lec 10	1730-2015TR	ED 265	K. Ansu-Kyeremeh
EDFDN 564 Education and Social Change	3	Sum: FULL	81827	Lec 40	1000-1105	ED 221	TBA
EDMDA 351 Introduction to Educational Media and Instructional Technology	3	Spr: FULL	69626	Lec 10	TBA	ED TEL	TBA
			78504	Lab 10	TBA	ED TEL	
		Restricted to students in the Adult Education Program. This course is being delivered off-campus. Contact the Dept. of Adult, Career & Technology Education for instructions at 492-3678.					
EDMDA 351 Introduction to Educational Media and Instructional Technology	3	Spr: FULL	39252	Lec 11	TBA	ED TEL	TBA
			57008	Lab 11	TBA	ED TEL	
		Restricted to students in the Adult Education Program. This course is being delivered off-campus. Contact the Dept. of Adult, Career & Technology Education for instructions at 492-3678.					
EDPSY 255 Psychoeducational Diagnosis and Assessment of Exceptional Children	3	Spr: FULL	65616	Lec 10	0845-0950	ED 221	M. Rodda/E. Wolf-Schein
				Lab 10	Individual Study		
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Restricted to Special Education minors only.					
EDPSY 257 Behavioural Management of Exceptional Children	3	Spr: FULL	38441	Lec 10	1330-1435	ED 106	J. Goldberg
			76882	Lab 10	1230-1310TR	ED 106	
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Restricted to Special Education minors only.					
EDPSY 329 Educational Psychology of Adolescence	3	Spr: FULL	86638	Lec 10	1000-1105	ED 106	C. Lewis
		Pre-session study is required. See "Pre-Session Study" section following this timetable.					
EDPSY 341 Psychology of Exceptional Children and Youth	3	Spr: FULL	06042	Lec 10	1115-1220	ED 254	C. Norman
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Certified teachers are eligible to take this course through the Unclassified student category; photocopy of certificate must be provided.					
EDPSY 341 Psychology of Exceptional Children and Youth	3	Sum: JUL2-26	83343	Lec 60	1330-1510	ED 254	J. Irvine
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Certified teachers are eligible to take this course through the Unclassified Student category; photocopy of certificate must be provided.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
EDPSY 363 Introduction to Educational Psychology: Development	3	Spr: FULL	72438	Lec 10	0730-0835	ED 213	G. Kysela
			44876	Sem 10	0845-0950	TBA	
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Restricted to B.Ed.A.D. (after degree) students.					
EDPSY 371 Learning, Instructional Psychology and Educational Practice	3	Sum: FULL	91537	Lec 40	1000-1105	ED N2-135	R. Beattie
			83087	Sem 40	1115-1225	ED N2-135	
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Students in the Faculty of Arts cannot take this course for degree credit.					
EDPSY 397 Seminars: Severe Disabilities: Communication	3	Spr: FULL	X83127	Lec 10	1700-2000TR	ED 255	R. Sobsey
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. (Contact the Department of Educational Psychology; 6-102 Educ N; 492-5245 for registration procedures.) Certified teachers are eligible to take this course through the Unclassified Student category, photocopy of certificate must be provided. EDPSY 397-Lec 10, EDPSY 497-10, and EDPSY 582-Lec 10 will be taught in conjunction.					
EDPSY 411 Introduction to Guidance	3	Spr: FULL	53806	Lec 10	1115-1220	ED 277	W. Marshall
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Restricted to Education and Arts students. Certified teachers are eligible to take this course through the Unclassified Student category; photocopy of certificate must be provided. (Contact the Department of Educational Psychology; 6-102 Educ N; 492-5245 for registration procedures.)					
EDPSY 411 Introduction to Guidance	3	Sum: FULL	07612	Lec 40	1115-1220	ED 255	C. Hammermaster
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Restricted to Education and Arts students. Certified teachers are eligible through the Unclassified Student category; photocopy of certificate must be provided. (Contact the Department of Educational Psychology; 6-102 Educ N; 492-5245 for registration procedures.)					
EDPSY 489 Test Construction for Teachers	3	Sum: FULL	41142	Lec 40	0845-0950	ED 265	D. Cisse
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Open to Secondary and Elementary Education students.					
EDPSY 493 Basic Issues in Contemporary Education	3	Spr: FULL	48708	Lec 10	1000-1105	ED 265	L. Stewin
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Restricted to 4th year B.Ed. students.					
EDPSY 493 Basic Issues in Contemporary Education	3	Sum: FULL	97416	Lec 40	1000-1105	ED 255	C. Kanchier
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Restricted to 4th year B.Ed. students.					
EDPSY 495 Interpersonal Communication for Teachers	3	Spr: MAY6-MAY24	34555	Lec 30	1330-1405	ED 254	G. Hess
			69110	Sem 30	1415-1450	ED 254	
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Students must have completed the Phase III Practicum.					
EDPSY 497 Senior Seminars: Severe Disabilities: Communication	3	Spr: FULL	X82003	Lec 10	1700-2000TR	ED 255	R. Sobsey
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. (Contact the Department of Educational Psychology; 6-102 Educ N; 492-5245 for registration procedures.) Certified teachers are eligible to take this course through the Unclassified Student category; photocopy of certificate must be provided. EDPSY 397-Lec 10, EDPSY 497 Lec 10 & EDPSY 582-Lec10 will be taught in conjunction.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
EDPSY 497 Senior Seminars: Psychological Issues in the New Alberta Health Curriculum	3	Sum: JUL2-JUL19	X56056 X48448	Lec 60 Lab 60	1000-1220 Individual Study	ED 276 TBA	G. Hess
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. (Contact the Department of Educational Psychology; 6-102 Educ N; 492-5245 for registration procedures.) EDPSY 497-Lec 60 and EDPSY 597-Lec 60 will be taught in conjunction. Certified teachers are eligible to take this course through the Unclassified Student category; photocopy of certificate must be provided.					
EDPSY 497 Senior Seminars: Issues in the Education of Deaf Students	3	Sum: JUL8-26	X96919 X86919	Lec 61 Lab 61	0900-1700 Individual Study	CALGARY TBA	C. Erting
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. (Contact the Department of Educational Psychology; 6-102 Educ N; 492-5245 for registration procedures). EDPSY 497-Lec 61 and EDPSY 597-Lec 61 will be taught in conjunction. Certified teachers are eligible to take this course through the Unclassified Student category; photocopy of certificate must be provided.					
EDPSY 497 Senior Seminars: Psychology and Education of Gifted Children	3	Sum: JUL2-19	X47919 X34343	Lec 62 Lab 62	0730-0950 Individual Study	EDN2-147 TBA	C. Yewchuk
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. (Contact the Department of Educational Psychology; 6-102 Educ N; 492-5245 for registration procedures.) EDPSY 497-Lec 62 and EDPSY 592-Lec 60 will be taught in conjunction. Certified teachers are eligible to take this course through the Unclassified Student category; photocopy of certificate must be provided.					
EDPSY 500 Introduction to Data Analysis in Educational Research	3	Spr: FULL	X90117 X80234	Lec 10 Lab 10	0845-0950 1000-1105M-F	ED N1-112 ED N1-112	R. Frender
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. (Contact the Department of Educational Psychology; 6-102 Educ N; 492-5245) for registration procedures.)					
EDPSY 501 Introduction to Methods of Educational Research	3	Sum: FULL	X56848 X13698	Lec 40 Lab 40	0845-0950 1000-1105M-F	ED N1-114 ED N1-114	J. Gackenbach
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. (Contact the Department of Educational Psychology; 6-102 Educ N; 492-5245.)					
EDPSY 509 Advanced Educational Psychology: Development	3	Spr: FULL	25327	Lec 10	1000-1105	ED N1-114	C. Norman
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Restricted to Educational Psychology students. Other students require consent of the department of Educational Psychology; 6-102 Educ N; 492-5245.					
EDPSY 510 Advanced Educational Psychology: Learning	3	Sum: FULL	40339	Lec 40	1000-1105	ED N2-101	M. Rodda/E. Wolf-Schein
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Educational Psychology Graduate students may register by telephone. Others require consent of the Department of Psychology; 6-102 Educ N; 492-5245.					
EDPSY 514 Cross-Cultural Psychology	3	Sum: JUL2-19	86258	Lec 60	1000-1220	ED 277	S. Choi
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Educational Psychology Graduate students may register by telephone. Others require consent of the department of Educational Psychology; 6-102 Educ N; 492-5245.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
EDPSY 544 Principles of Psychological Testing and Assessment	3	Spr: FULL	92703 85408	Lec 10 Lab 10	1700-2000TR TBA	ED N1-112 TBA	P. Calder
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Restricted to Educational Psychology students. Other students require consent of the department of Educational Psychology; 6-102 Educ N; 492-5245.					
EDPSY 545 Individual Psychological Assessment	6	Spr: MAY11-AUG9	X03543 X07086	Lec 30 Lab 30	1800-2100W 0900-1600S	ED 213 ED 213	H. Janzen/F. Boersma
		Closed to telephone registration. Course offered over the Spring and Summer Terms May 11-August 9. First class meeting May 11. (Contact the department of Educational Psychology 6-102 Educ N; 492-5245 for permission to register and further scheduling details.)					
EDPSY 546 Preschool Assessment Strategies	3	Spr: FULL	X49526 X99052	Lec 10 Lab 10	1800-2100W 0900-1600S	ED N1-110 ED N1-110	G. Kysela/H. Janzen
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. (Contact the department of Educational Psychology; 6-102 Educ N; 492-5245 for registration procedures.)					
EDPSY 556 Problems and Issues in Special Education: High Incidence Groups and Service Delivery	3	Sum: FULL	97322	Lec 40	1000-1105	ED N1-126	J. Goldberg
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Educational Psychology Graduate students may register by telephone. Others require the consent of the department of Educational Psychology; 6-102 Educ N; 492-5245.					
EDPSY 571 Internship in Education of the Hearing Impaired Students	V	Spr: FULL	93640	Lec 30	Internship	TBA	M. Bibby
		Restricted to Educational Psychology students. Course weight will be variable.					
EDPSY 582 Severe Disabilities: Communication	3	Spr: FULL	92237	Lec 10	1700-2000TR	ED 255	R. Sobsey
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Restricted to Educational Psychology students. Other students require consent of the department of Educational Psychology; 6-102 Educ N; 492-5245. EDPSY 397-Lec 10, EDPSY 497-Lec 10, and EDPSY 582-Lec 10 will be taught in conjunction.					
EDPSY 592 Psychology and Education of Gifted Children	3	Sum: JUL2-19	54815 09630	Lec 60 Lab 60	0730-0950 Individual Study	ED 277 TBA	C. Yewchuk
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Educational Psychology Graduate students may register by telephone. Others require consent of the department of Educational Psychology; 6-102 Educ N; 492-5245. EDPSY 592-Lec 60 and EDPSY 497-Lec 60 will be taught in conjunction.					
EDPSY 597 Special Seminars: Consultation Procedures, Skills & Models	3	Spr: FULL	X06072 X48582	Lec 11 Lab 11	1800-2100TR Individual Study	ED 262 TBA	H. Janzen/L. Stewin/J. Paterson
		Closed to telephone registration. Contact the department of Educational Psychology; 6-102 Educ N; 492-5245 for registration procedures. EDPSY 597-Lec 11 and EDPSY 697-Lec 10 will be taught in conjunction.					
EDPSY 597 Special Seminars: Principles of Professional Practice in Psychology and Counselling	3	Spr: MAY6-24	X06343	Lec 30	1330-1550	ED N1-112	P. O'Neill
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. Contact the Department of Educational Psychology; 6-102 Educ N; 492-5245 for registration procedures.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
EDPSY 597 Special Seminars: Psychological Issues in the New Alberta Health Curriculum	3	Sum: JUL2-19	X36343	Lec 60	1000-1220	ED 276	G. Hess
			X25343	Lab 60	Individual Study	TBA	
Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. (Contact the Department of Educational Psychology; 6-102 Educ N; 492-5245.) EDPSY 597-Lec 60 and EDPSY 497-Lec 60 will be taught in conjunction.							
EDPSY 597 Special Seminar: Issues in the Education of Deaf Students	3	Sum: JUL8-26	X56343	Lec 61	0900-1700	Calgary	C. Erting
			X75343	Lab 61	Individual Study	TBA	
Closed to telephone registration. Contact the Department of Educational Psychology; 6-102; 492-5245 for registration procedures. EDPSY 497-Lec 61 and EDPSY 597-Lec 61 will be taught in conjunction.							
EDPSY 697 Special Seminars: Consultation Procedures, Skills & Models	3	Spr: FULL	X75633	Lec 10	1800-2100TR	ED 262	H. Janzen/L. Stewin/J. Paterson
			X51266	Lab 10	Individual Study	TBA	
Closed to telephone registration. Contact the Department of Educational Psychology; 6-102 Educ N; 492-5245 for registration procedures. EDPSY 597-Lec 11 and EDPSY 697-Lec 10 will be taught in conjunction.							
EDSEC 400 Conference Seminar: Teaching a Second Language in Asian Language Schools I	3	Sum: JUL8-19	X76948	Lec 60	0830-1200	ED 122	TBA
Closed to telephone registration. Contact the Department of Secondary Education; 341 Educ S; 492-3674 for registration procedures. Students who register in EDSEC 400 Lec 60 must also register in EDSEC 401 Lec 60.							
EDSEC 401 Conference Seminar: Building Instructional Materials for Secondary Social Studies Teaching	3	Sum: FULL	71538	Lec 40	0900-1050MTR	ED 177	J. Parsons
Open to Social Studies Majors and Minors and others. Also open to certified teachers through the Unclassified Student category; photocopy of certificate must be provided. Contact the Department of Secondary Education; 341 Educ S; 492-3674 for registration procedures.							
EDSEC 401 Conference Seminar: Teaching a Second Language in Asian Language Schools II	3	Sum: JUL22-AUG2	X43076	Lec 60	0830-1200	ED 218	TBA
Closed to telephone registration. Students who register in EDSEC 401 Lec 60 must also register in ED SEC 400 Lec 60. Contact the Department of Secondary Education; 341 Educ S; 492-3674 for registration procedures.							
EDSEC 401 Conference Seminar: An Introduction to Second Language Education	3	Sum: JUL2-19	86152	Lec 61	1000-1220	ED 218	D. Parker
Open to second language minors and after-degree B.Ed students in the second language area. Also open to certified teachers in the second languages area through the Unclassified Student category; photocopy of certificate must be provided. Contact the Department of Secondary Education; 341 Educ S; 492-3674 for registration procedures.							
EDSEC 439 Specialized Methods in Secondary School Mathematics Teaching	3	Spr: FULL	31818	Lec 10	1600-1845MW	ED 939	A.Olson
Also open to certified teachers through the unclassified student program; photocopy of certificate must be provided. Contact the Department of Secondary Education; 341 Educ S; 492-3674 for registration procedures.							
EDSEC 463 Environmental Education for the Secondary School	3	Spr: FULL	89041	Lcl 10	1630-1915TR	ED 358	W. Samiroden
Restricted to 3rd and 4th Year Secondary Education students with Science Minor. Open to certified teachers through the Unclassified student category photocopy of certificate must be provided. Contact the Department of Secondary Education; 341 Educ S; 492-3674 for registration procedures.							

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
EDSEC 475 New Approaches in Secondary School Social Studies	3	Sum: FULL	55008	Lec 40	1100-1250MTR	ED 177	J. Parsons
		Open to Social Studies majors and minors as well as other interested students. Also open to certified teachers through the Unclassified Student category: photocopy of certificate must be provided. Contact the Department of Secondary Education; 341 Educ S; 492-3674.					
EDSEC 501 Conference Seminar in Secondary Education I: The Use of Journal as a Research Technique	3	Spr: FULL	X04712	Lec 10	1600-1850TR	ED 338	T. Craig
		Closed to telephone registration. Contact the Department of Secondary Education; 341 Educ S; 492-3674. Restricted to graduate students and diploma students in Education.					
EDSEC 501 Conference Seminar in Secondary Education I: Curriculum and Instruction in Personal, Career and Life Management Education	3	Sum: JUL22-AUG9	X09424	Lec 60	0930-1230MTWR	ED 277	TBA
		Closed to telephone registration. Contact the Department of Secondary Education; 341 Educ S; 492-3674 for registration procedures. Restricted to graduate and diploma students in Education. Prerequisite: EDSEC 503 and EDPSY 597 or equivalent.					
EDSEC 503 Curriculum Development	3	Spr: MAY6-24	X84430	Lec 30	0900-1120	ED 382	L. Beauchamp
		Closed to telephone registration. Contact the Department of Secondary Education; 341 Educ S; 492-3674 for registration procedures. Priority given to students who register for both EDSEC 503 Lec 30 and EDSEC 504 Lec 30. Restricted to graduate students and diploma students in Education.					
EDSEC 503 Curriculum Development	3	Sum: JUL2-19	X19831	Lec 60	0900-1120	ED 338	K. Jacknicke
		Closed to telephone registration. Priority given to students who register for both EDSEC 503 Lec 60 and EDSEC 504 Lec 60. Restricted to graduate and diploma students in Education.					
EDSEC 504 Current Curriculum Development	3	Spr: MAY27-JUN14	X40613	Lec 30	0900-1120	ED 382	L. Beauchamp
		Closed to telephone registration. Pre-requisite EDSEC 503 Lec 30. Restricted to graduate students and diploma students in Education. Contact the Department of Secondary Education 341 Educ S. 492-3674 for registration procedures					
EDSEC 504 Current Curriculum Development	3	Sum: JUL22-AUG9	X81226	Lec 60	0900-1120	ED 338	K. Jacknicke
		Closed to telephone registration. Contact the Department of Secondary Education; 341 Educ S; 492-3674 for registration procedures. For graduate students and diploma students in Education and certified teachers. Prerequisite: EDSEC 503 Lec 60.					
EDSEC 600 Secondary Education: Understanding Curriculum and Pedagogy within the Narrative Discourse of Practicing Teachers	6	Spr: MAY6-31	X63718	Lec 30	0830-1200	ED 338	T. Aoki
		Closed to telephone registration. Contact the Department of Secondary Education; 341 Educ S; 492-3674 for registration procedures. Restricted to graduate students in Education.					
EDSEC 600 Secondary Education: Curriculum in a Postmodern Context	6	Sum: JUL2-26	X27436	Lec 60	0830-1200	ED 382	G. Hudak
		Closed to telephone registration. Contact the Department of Secondary Education; 341 Educ S; 492-3674 for registration procedures. Restricted to graduate and diploma students in Education.					
ENGG 210 Engineering Drawing and Computer Graphics	3	Spr: MAY6-24	08824	Lec 30	0730-0900	CEB 325	G. Wormsbecker
			35300	Lab 30	0900-1230	CEB 104	
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Students in faculties other than Engineering or the Agricultural Engineering program require consent of the Department of Civil Engineering; 2-20 Civ/Elect.;492-4235.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
ENGG 210 Engineering Drawing and Computer Graphics	3	Spr: MAY27-JUN14	17650	Lec 31	0730-0900	CEB 325	G. Wormsbecker
			70600	Lab 31	0900-1230	CEB 104	
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Students in faculties other than Engineering or the Agricultural Engineering program require consent of the Department of Civil Engineering; 2-20 Civ/Elect.; 492-4235.					
ENGG 231 Engineering Mechanics II	3	Spr: MAY6-JUN14	14920	Lec 10	0845-0950TR	MEC 4-01	E. Haseganu
			04920	Lab 10	1000-1220TR	MEC 4-01	
		Students in faculties other than Engineering or the Agricultural Engineering program require consent of the Department of Mechanical Engineering at 4-9 Mech Eng. 492-3598					
ENGL 110 English Literary Forms	6	Spr: FULL	59956	Lec 20	0730-0950	HC 1-15	R. Bersagel
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Students registering in English courses are advised not to register in other courses in the same term.					
ENGL 110 English Literary Forms	6	Spr: FULL	19912	Lec 21	1000-1220	HC 1-15	E.W.R. Pitcher
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Students registering in English courses are advised not to register in other courses in the same term.					
ENGL 110 English Literary Forms	6	Spr: FULL	39827	Lec 22	1000-1220	HC 2-15	C. Fertile
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Students registering in English courses are advised not to register in other courses in the same term.					
ENGL 110 English Literary Forms	6	Spr: FULL	79657	Lec 23	1830-2050	T B-117	S. Hillabold
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Students registering in English courses are advised not to register in other courses in the same term.					
ENGL 110 English Literary Forms	6	Sum: FULL	59314	Lec 50	1000-1220	HC 1-15	E. Quinn
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Students registering in English courses are advised not to register in other courses in the same term.					
ENGL 110 English Literary Forms	6	Sum: FULL	18628	Lec 51	1330-1550	HC 1-07	T. Grande
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Students registering in English courses are advised not to register in other courses in the same term.					
ENGL 110 English Literary Forms	6	Sum: FULL	37256	Lec 52	1830-2050	T B-113	G. Sherbert
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Students registering in English courses are advised not to register in other courses in the same term.					
ENGL 175 Readings in Prose	3	Spr: FULL	38237	Lec 10	1000-1105	HC 2-21	R.J.S. Grant
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Students registering in English courses are advised not to register in other courses in the same term.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
ENGL 303 Children's Literature in English	6	Spr: FULL	69218	Lec 20	1000-1220	HC 2-22	J. Stott
		Pre-session study is required. See "Pre-Session Study" section following this timetable. The students registering in English courses are advised not to register in other courses in the same term. Registration in 300-level English courses requires the successful completion of one full year of English at the 100-level.					
ENGL 304 Folklore in Children's Literature in English	3	Sum: FULL	87412	Lec 40	1330-1435	HC 1-03	C. Gordon-Craig
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Registration in 300-level English courses requires the successful completion of one full year of English at the 100-level. Students registering in an English course are advised not to register in other courses in the same term.					
ENGL 306 Introduction to the English Language	3	Spr: FULL	41529	Lec 10	1115-1220	HC 2-14	R.J.S. Grant
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Registration in 300-level English courses requires the successful completion of one full year of English at the 100-level. Students registering in English courses are advised not to register in other courses in the same term.					
ENGL 309 Expository Writing	6	Spr: FULL	81346	Lec 20	1000-1220	HC 2-19	R. Hoffpauir
		Registration in 300-level English courses requires the successful completion of one full year of English at the 100-level. Students registering in English courses are advised not to register in other courses in the same term.					
ENGL 309 Expository Writing	6	Spr: FULL	62692	Lec 21	1330-1550	HC 2-19	L. Ouzgane
		Registration in 300-level English courses requires the successful completion of one full year of English at the 100-level. Students registering in English courses are advised not to register in other courses in the same term.					
ENGL 309 Expository Writing	6	Sum: FULL	25384	Lec 50	1000-1220	HC 2-19	K. Hewson
		Registration in 300-level English courses requires the successful completion of one full year of English at the 100-level. Students registering in an English course are advised not to register in other courses in the same term.					
ENGL 309 Expository Writing	6	Sum: FULL	50768	Lec 51	1330-1550	HC 2-19	J. Marino
		Registration in 300-level English courses requires the successful completion of one full year of English at the 100-level. Students registering in an English course are advised not to register in other courses in the same term.					
ENGL 332 Shakespeare	6	Sum: FULL	08643	Lec 50	1000-1220	HC 1-03	C. Q. Drummond
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Registration in 300-level English courses requires the successful completion of one full year of English at the 100-level. Students registering in an English course are advised not to register in other courses in the same term.					
ENGL 360 Early Twentieth-Century American Novel	3	Spr: FULL	51856	Lec 10	1330-1435	HC 1-03	R. Solomon
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Registration in 300-level English courses requires the successful completion of one full year of English at the 100-level. Students registering in English courses are advised not to register in other courses in the same term.					
ENGL 366 The Short Story	3	Spr: FULL	49624	Lec 10	1115-1220	HC 2-21	S. Bagchee
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Registration in 300-level English courses requires the successful completion of one full year of English at the 100-level. Students registering in English courses are advised not to register in other courses in the same term.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
ENGL 366 The Short Story	3	Sum: FULL	99248	Lec 40	0845-0950	HC 1-03	C. Gordon-Craig
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Registration in 300-level English courses requires the successful completion of one full year of English at the 100-level. Students registering in an English course are advised not to register in other courses in the same term.					
ENGL 389 Canadian Prose from 1925	3	Spr: FULL	86003	Lec 10	1000-1105	HC 2-26	S. Bagchee
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Registration in 300-level English courses requires the successful completion of one full year of English at the 100-level. Students registering in English courses are advised not to register in other courses in the same term.					
ENGL 442 Studies in Nineteeth and Twentieth-Century Prose:Children's Fantasy	3	Spr: FULL	52839	Lec 10	1000-1105	HC 2-25	R. Jones
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Registration in 400-level English courses requires the successful completion of one full year of English at the 300-level. Students registering in English courses are advised not to register in other courses in the same term.					
ENGL 444 Selected Prose Fiction: Woolf and Joyce--Text and Context	3	Sum: FULL	66625	Lec 40	1000-1105	HC 2-14	E. L. Bishop
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Registration in 400-level English courses requires the successful completion of one full year of English at the 300-level. Students registering in an English course are advised not to register in other courses in the same term.					
ENGL 679 Studies in Twentieth-Century Literature: Jewish Writers of North America	3	Spr: FULL	77647	Lec 30	0900-1145TR	HC 2-37	R. Solomon
		Pre-session study is required. See "Pre-Session Study" section following this timetable. This course is open to students registered as M.A. or Ph.D. students in the Department of English.					
ENGL 694 Studies in Literary Techniques: Small Presses, Little Magazines, and the Production of Modernism	3	Sum: FULL	80815	Lec 40	1300-1545TR	HC 2-37	E. L. Bishop
		Pre-session study is required. See "Pre-Session Study" section following this timetable. This course is open to students registered as M.A. or Ph.D. students in the Department of English.					
EVAED 498 La mesure et l'évaluation en éducation	3	Sum: JUL2-12	63630	Lec 60	0900-1200 And 1315-1500	FSJ FSJ	M. Thouin
F ST 200 Introduction to the Study of Film	6	Spr: FULL	14615 29230	Lec 20 Lab 20	1000-1220 1330-1655	HC 2-07 HC 2-07	P. Klovan
FAM 445 Practicum in Family Services	6	Spr: FULL	95886 47943	Sem 20 Lab 20	1330-1630W All Day	ED 213 TBA	TBA
		Course will involve 200 practicum hours arranged between agency and individual students.					
FAM 449 Family and Human Development: Consumers and Environments	3	Spr: MAY27-JUN14	77255	Lec 30	1000-1220	ED 128	L. Lusby

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
FAM 460 Family and Consumer Law	3	Sum: FULL	57423	Lec 40	1000-1105	ED 206	P. Bowal
FAM 649 Seminar in Family Studies: Action Research and Evaluation Facilitating Empowerment	3	Spr: FULL Closed to unclassified students and restricted to graduate students only.	33758	Sem 10	1115-1400TR	ED 128	C. Morgaine
FD NU 325 Introductory Human Nutrition I	3	Spr: MAY6-24	84234	Lec 30	0730-0950	DP 2022	TBA
FD NU 327 Introductory Human Nutrition II	3	Spr: MAY27-JUN14	37449	Lec 30	0730-0950	ED 277	TBA
FIN 301 Business Finance	3	Spr: FULL Restricted to Business students. Other students require written approval of their faculty and consent of the Faculty of Business, 2-20 Business Bldg.	62008	Lec 10	0845-0950	BUS B-10	C. Oickle
FIN 301 Business Finance	3	Sum: FULL Restricted to Business students. Other students require written approval of their faculty and consent of the Faculty of Business; 2-20 Business Bldg.	24016	Lec 40	0845-0950	BUS B-10	D. Pearce
FIN 412 Investment Principles: Security Analysis	3	Spr: FULL Restricted to Business students. Other students require written approval of their faculty and consent of the Faculty of Business, 2-20 Business Bldg.	44925	Lec 10	0845-0950	BUS B-12	D. Pearce
FIN 422 Capital Investment	3	Spr: FULL Restricted to Business students. Other students require written approval of their faculty and consent of the Faculty of Business, 2-20 Business Bldg.	41753	Lec 10	1000-1105	BUS B-12	C. Wolsey
FRANC 110 Cours de français intermédiaire: niveau I	6	Spr: MAY21-JUN28 Closed to telephone registration. Contact the Faculte St. Jean at 465-8700 for registration procedures.	X50109 X80109 X20109	Lec 30 Sem 30 Lab 30	ALL DAY	MATANE, QUEBEC MATANE, QUEBEC MATANE, QUEBEC	TBA
FRANC 110 Cours de français intermédiaire: niveau I	6	Sum: FULL Closed to telephone registration. Contact Faculte St. Jean; 465-8700 for registration procedures.	X22509 x90109 X30109	Lec 50 Sem 50 Lab 50	ALL DAY	NORDEGG, ALTA NORDEGG, ALTA NORDEGG, ALTA	TBA
FRANC 113 Cours de français avancé: niveau I	3	Spr: MAY21-JUN28 Closed to telephone registration. Contact the Faculte St. Jean at 465-8700 for registration procedures	X91109 X81109	Lec 30 Lab 30	ALL DAY ALL DAY	MATANE, QUEBEC MATANE, QUEBEC	TBA
FRANC 113 Cours de français avancé: niveau I	3	Sum: FULL Closed to telephone registration. Contact the Faculte St. Jean; 465-8700 for registration procedures.	X31454 X62908	Lec 40 Lab 40	ALL DAY	NORDEGG, ALTA NORDEGG, ALTA	TBA

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
FRANC 114 Cours de français avancé: niveau II	3	Spr: MAY21-JUN28	X72109 X62109	Lec 30 Lab 30	ALL DAY ALL DAY	MATANE, QUEBEC MATANE, QUEBEC	TBA
		Closed to telephone registration. Contact the Faculte St. Jean at 465-8700 for registration procedures					
FRANC 114 Cours de français avancé: niveau II	3	Sum: FULL	X37817 X75634	Lec 40 Lab 40	ALL DAY	NORDEGG, ALTA NORDEGG, ALTA	TBA
		Closed to telephone registration. Contact Faculte St. Jean; 465-8700 for registration assistance.					
FRANC 315 Cours de français intermédiaire: niveau III	3	Spr: FULL	X92101	Lec 10	0845-0950	FSJ	M. Laplane-Gibbins
		Closed to telephone registration. Contact Faculte St. Jean 465-8700 for registration assistance.					
FRANC 319 Cours de français avancé: niveau III	3	Spr: FULL	X84549	Lec 10	1115-1220	FSJ	D.M. Montpetit
		Closed to telephone registration. Contact Faculte St. Jean 465-8700 for registration assistance.					
FRANC 322 Pratique de la dissertation	3	Spr: FULL	X88326	Lec 10	1115-1220	FSJ	M. Laplane-Gibbins
		Closed to telephone registration. Contact Faculte St. Jean 465-8700 for registration assistance.					
FRANC 322 Pratique de la dissertation	3	Spr: FULL	X76652	Lec 11	1330-1435	FSJ	D.M. Montpetit
		Closed to telephone registration. Contact Faculte St. Jean at 465-8700 for registration assistance.					
FREN 100 Beginners' French	6	Spr: FULL	01048	Lec 20	1000-1220 And 1330-1550MTWR	A 113 A 113	TBA
		Students registering in FREN 100 are advised not to register in other courses in the same term. Audit privileges are not extended to students in this course.					
FREN 100 Beginners' French	6	Spr: FULL	02096	Lec 21	1000-1220 And 1330-1550MTWR	A 103 A 103	TBA
		Students registering in FREN 100 are advised not to register in other courses in the same term. Audit privileges are not extended to students in this course.					
FREN 100 Beginners' French	6	Sum: FULL	04192	Lec 50	1000-1220 And 1330-1550MTWR	A 113 A 113	TBA
		Intended for students who will be continuing on into FREN 150. Students registering in FREN 100 are advised not to register in other courses in the same term. Audit privileges are not extended to students in this course.					
FREN 150 First-Year University French	6	Spr: FULL	30932 47484	Lec 20 Lab 20	1000-1220 1330-1550	A 104 A 104	TBA
		Students registering in FREN 150 are advised not to register in other courses in the same term. Audit privileges are not extended to students in this course.					
FREN 150 First-Year University French	6	Spr: FULL	61871 94968	Lec 21 Lab 21	1000-1220 1330-1550	A 106 A 106	TBA
		Students registering in FREN 150 are advised not to register in other courses in the same term. Audit privileges are not extended to students in this course.					
FREN 150 First-Year University French	6	Sum: FULL	23742 89944	Lec 50 Lab 50	1000-1220 1330-1550	A 106 A 106	TBA
		Students registering in FREN 150 are advised not to register in other courses in the same term. Audit privileges are not extended to students in this course.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
FREN 155 Basic Skills for Reading French	3	Spr: FULL	84354	Lec 10	1830-2115TR	T B-113	TBA
FREN 156 Basic Skills for Reading French	3	Sum: FULL	95354	Lec 40	1830-2115TR	A 103	TBA
FREN 250 Second-Year University French	6	Sum: FULL	42558 85116	Lec 50 Lab 50	1000-1220 1330-1550	A 109 A 109	TBA
		Students registering in this course are advised not to register in other courses in the same term. Audit privileges are not extended to students in this course.					
GENET 165 Genetics and Human Welfare	3	Sum: FULL	37115	Lec 40	1830-2030TWR	BS B 1-05	E. Savage
GEOG 130 Introductory Physical Geography I	3	Spr: MAY6-24	20355 09255 49255	Lec 30 Lab 30 Lab 31	1000-1220 1330-1630 1330-1630	T 1-103 T 3-70 T 3-76	J. Park
GEOG 130 Introductory Physical Geography I	3	Sum: JUL2-19	60355 79255 00355	Lec 60 Lab 60 Lab 61	1000-1220 1330-1630 1330-1630	T BW-01 T 3-70 T 3-76	J. Park
GEOG 131 Introductory Physical Geography II	3	Spr: MAY27-JUN14	92355 21355 61355	Lec 30 Lab 30 Lab 31	1000-1220 1330-1630 1330-1630	T 1-103 T 3-70 T 3-76	J. Park
GEOG 131 Introductory Physical Geography II	3	Sum: JUL22-AUG9	53355 91355 82355	Lec 60 Lab 60 Lab 61	1000-1220 1330-1630 1330-1630	T BW-01 T 3-70 T 3-76	J. Park
GEOG 244 Introduction to Third World Geography	3	Sum: FULL	54355	Lec 40	1000-1105	T 3-58	A. Wiebe
GEOG 281 Geography of the City	3	Spr: FULL	35355	Lec 10	1000-1105	T 3-58	M. McGibbon
GEOG 282 Geography of Urban Canada	3	Spr: FULL	95355	Lec 10	1330-1435	T 3-58	S. Gilham
GEOG 340 Regionalization in Canada	3	Sum: FULL	36355	Lec 40	1330-1435	T 3-58	TBA
GEOL 201 Earth Science I	3	Spr: MAY6-24	63773	Lec 30	0730-0950	ESC 2-35	TBA
GEOL 201 Earth Science I	3	Sum: JUL2-19	80931	Lec 60	0730-0950	ESC 2-35	TBA

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
GEOL 204 Earth Science II	3	Spr: MAY27-JUN14	53931	Lec 30	0730-0950	ESC 2-35	TBA
GEOL 204 Earth Science II	3	Sum: JUL22-AUG9	24649	Lec 60	0730-0950	ESC 2-35	TBA
GEOL 207 Environmental Earth	3	Sum: JUL22-AUG9	31605	Lec 60	1000-1220	ESC 1-31	TBA
GEOL 208 Earth Science III Planetary Geology	3	Spr: MAY27-JUN14	02038	Lec 30	1000-1220	ESC 2-35	TBA
GERM 165 Reading German for Beginners	6	Spr: FULL	79413	Lec 20	1000-1220	T B-90	S. Nimmo
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Can be used as substitute for GERM 500 to help graduate students reach reading proficiency. Fulfills Arts LOE entry requirement.					
GERM 301 Advanced German Grammar and Stylistics	6	Spr: FULL	31513	Lec 20	1000-1220	HC 2-11	G. Alexander
GREEK 100 Beginners' Greek	6	Spr: FULL	61809 23618	Lec 20 Lab 20	1000-1220 1330-1550	HC 2-29 HC 2-29	J. Wilson
HE ED 210 Introduction to Health Promotion	3	Spr: FULL	39930	Lec 10	1630-1735	A 103	TBA
HIST 100 European History	6	Spr: FULL	36904 82513	Lec 20 Sem 20	1000-1220 1330-1405	T 1-119 T 1-129	TBA
HIST 110 Early World History II	3	Sum: FULL	85114	Lec 40	1000-1105	HC 2-12	TBA
		Pre-session study is required. See "Pre-Session Study" section following this timetable.					
HIST 120 World History Since the Eighteenth Century	6	Spr: FULL	48626	Lec 20	1000-1220	T 2-44	P. Zachernuk
HIST 251 American History Since 1865	3	Sum: FULL	93116	Lec 40	1115-1220	T 2-44	P. De Luna
HIST 260 An Introduction to the Study of Canadian History 1500-1867	3	Spr: FULL	72613	Lec 10	1330-1435	T 1-93	G. Johnson
HIST 261 An Introduction to the Study of Canadian History 1867 to the Present	3	Sum: FULL	19256	Lec 40	1330-1435	T 1-93	G. Johnson

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
HIST 320 The Soviet Union	6	Sum: FULL	63220	Lec 50	0730-0950	T 2-44	D. Marples
HIST 365 The Canadian West to 1870	3	Spr: FULL	54718	Lec 10	1800-1950MTW	T 2-44	J. Foster
HIST 439 Imperial Vienna From Mozart to Freud, 1750-1918	6	Sum: FULL Closed to telephone registration. For further information students should refer to the Special Programs section immediately preceding this timetable. Consent of the Department of History: 2-28 Tory; 492-3270 is required.	X18804	Lec 50	ALL DAY	VIENNA, AUSTRIA	F. Szabo
HISTE 375 Le Canada français depuis la Confédération	3	Spr: FULL	24531	Lec 10	1830-2130TR	FSJ	C. Couture
IND R 301 Industrial Relations in Canada	3	Sum: FULL	81844	Lec 40	0845-0950	BUS B-06	R. Bradford
IND R 423 Staffing	3	Sum: FULL	78857	Lec 40	1000-1105	BUS B-12	R. Bradford
INT D 465 Natural Resource Utilization	3	Spr: MAY27-JUN14	35858	Lec 30	1000-1220	GSB 511	W. Phillips
LATIN 100 Beginners' Latin	6	Sum: FULL	27951 55902	Lec 50 Lab 50	1000-1220 1330-1550	HC 2-41 HC 2-41	D. Fishwick
LAW 300 Law For Non-LLB. Students I	3	Spr: FULL Not available for credit in the LL.B. program.	32316	Lec 10	1000-1105	LC 201A	B. Elman/J. Law
LAW 301 Law For Non-LLB. Students II	3	Spr: FULL Not available for credit in the LL.B. program.	65635	Lec 10	1445-1550	LC 201A	G. Gall
LEG R 301 Legal Foundations of the Canadian Economy	3	Spr: FULL Not open to first year students.	12325	Lec 10	1000-1105	BUS B-06	E. Geddes
LEG R 301 Legal Foundations of the Canadian Economy	3	Sum: FULL Not open to first year students.	24650	Lec 40	1000-1105	BUS B-06	E. Geddes
LING 101 Introduction to the Study of Language I	3	Spr: FULL	25848	Lec 10	1000-1105	CAB 273	E. Abraham
LING 203 Introduction to Linguistics	3	Spr: FULL Students registering in this course are advised not to register in other courses in the same term.	15527 62108	Lec 10 Sem 10	1000-1105 1115-1220	CAB 289 CAB 289	M. Munro

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
LING 203 Introduction to Linguistics	3	Sum: FULL	31054 24216	Lec 40 Sem 40	1000-1105 1115-1220	CAB 289 CAB 289	TBA
		Students who register in this course are advised not to register in another course in the same term.					
LING 204 English Syntax	3	Spr: FULL	55256	Lec 10	1000-1105	CAB 281	S. Rice
LING 204 English Syntax	3	Sum: FULL	10512	Lec 40	1000-1105	CAB 281	TBA
LIS 412 Storytelling	3	Spr: FULL	74727	Lec 10	1800-2045MW	RS 3-22	G. DeVos
		Open to students registered in the Master of Library and Information Studies program, plus other 3rd year and 4th year undergraduates, and graduate students. Other students require consent of the Faculty. Contact Faculty of Library and Information Studies at 3-20 Rutherford S, 492-4578 for registration assistance.					
LIS 593 Archives Administration	3	Sum: FULL	43315 86630	Lec 40 Lab 40	1330-1405 1415-1620	RS 3-22 RS 3-22	TBA
		Open to students registered in the Master of Library and Information Studies Program. Other students require consent of the Faculty. Contact the Faculty of Library and Information Studies; 3-20 Rutherford S; 492-4578 for registration assistance.					
LIS 594 Records Management	3	Spr: FULL	67720 35440	Lec 10 Sem 10	1800-2045TR 2100-2210TR	RS 3-02 RS 3-02	TBA
		Open to students registered in the Master of Library and Information Studies program. Other students require consent of the Faculty of Library and Information Studies; 3-20 Rutherford S; 492-4578 for registration assistance.					
LIS 598 Special Topics: Legal Bibliography	3	Spr: FULL	35513	Lec 10	0900-1145MR	LC 113	L. MacPherson
		Open to students registered in the Master of Library and Information Studies program. Other students require consent of the Faculty of Library and Information Studies; 3-20 Rutherford S; 492-4578 .					
LIS 598 Special Topics: Business Literature	3	Sum: FULL	97522	Lec 40	0845-1035	RS 3-22	K. West
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Open to students in the Master of Library and Information Studies Program. Other students require consent of the Faculty of Library and Information Studies; 3-20 Rutherford S; 492-4578.					
MA SC 400 Directed Studies	6	Spr: APR29-JUN8	47436	Lab 30	All Day	BAMFIELD	TBA
MA SC 400 Directed Studies	6	Sum: JUN10-JUL20	57436	Lab 60	All Day	BAMFIELD	TBA
MA SC 400 Directed Studies	6	Sum: JUL22-AUG31	77436	Lab 61	All Day	BAMFIELD	TBA
MA SC 401 Special Topics in Marine Biology: Fisheries-Forestry Interactions, Lessons from the Carnation Creek Project	6	Sum: JUL22-AUG31	71536	Lab 60	All Day	BAMFIELD	G.F. Hartman S. McDonald

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
MA SC 402 Special Topics in Marine Biology: Echinoderm Biology	3	Spr: JUN10-29	54536	Lab 30	All Day	BAMFIELD	M. Byrne/R. Fontaine
MA SC 402 Special Topics in Marine Biology: Island Biogeography	3	Sum: JUL2-20	64536	Lab 60	All Day	BAMFIELD	M. Cody
MA SC 402 Special Topics in Marine Biology: Marine Biology for Teachers	3	Sum: JUL2-20	84536	Lab 61	All Day	BAMFIELD	S. Carson G. Snively
MA SC 402 Special Topics in Marine Biology: Introduction to Marine Education	3	Sum: JUL15-AUG3	05536	Lab 62	All Day	BAMFIELD	S. Carson G. Snively
MA SC 402 Special Topics in Marine Biology: Fossils of the Burgess Shale	3	Sum: AUG5-AUG24	45536	Lab 63	All Day	BAMFIELD	R. Ludvigsen R. Nursall
MA SC 410 Marine Invertebrate Zoology	6	Spr: APR29-JUN8	66536	Lab 30	All Day	BAMFIELD	M. Byrne
MA SC 420 Marine Phycology	6	Spr: APR29-JUN8	43204	Lab 30	All Day	BAMFIELD	L. Druehl
MA SC 440 Biology of Marine Birds	6	Sum: JUL22-AUG31	30636	Lab 60	All Day	BAMFIELD	A. Burger J. Ryder
MA SC 446 Comparative Ethology	6	Sum: JUN10-JUL20	90636	Lab 60	All Day	BAMFIELD	C. Groot
MA SC 450 Principles of Aquaculture	3	Spr: APR29-MAY18 New course added	92636	Lab 30	All Day	BAMFIELD	J. Spence
MA SC 454 Special Topics in Aquaculture: Molluscan Aquaculture	3	Spr: JUN10-JUN28 New course added	64636	Lab 30	All Day	BAMFIELD	O'Folghll/R. Reid
MA SC 460 Special Topics in Aquacultural Applied Science: Fish and Shellfish Health	3	Spr: MAY20-JUN8 New course added	57636	Lab 30	All Day	BAMFIELD	D. Goering/B. Eaton
MA SC 470 Directed Reserch in Aquaculture	3	Spr: APR29-MAY18 New Course Added	08636	Lab 30	All Day	BAMFIELD	TBA

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
MA SC 470 Directed Research in Aquaculture	3	Spr: MAY20-JUN8 New course added	38636	Lab 31	All Day	BAMFIELD	TBA
MA SC 470 Directed Research in Aquaculture	3	Sum: JUL2-20	88636	Lab 60	All Day	BAMFIELD	TBA
MA SC 470 Directed Research in Aquaculture	3	Sum: JUL22-AUG10	98636	Lab 61	All Day	BAMFIELD	TBA
MA SC 500 Graduate Level Directed Studies	6	Spr: APR29-JUN8	00736	Lab 30	All Day	BAMFIELD	TBA
MA SC 500 Graduate Level Directed Studies	6	Sum: JUL2-AUG31	60736	Lab 60	All Day	BAMFIELD	TBA
MANEC 301 Micro-economics for Canadian Business Management	3	Spr: FULL	66513	Lec 10	1115-1220	BUS B-06	D. Pearce
MATH 101 Calculus II	4.5	Spr: FULL	65523	Lec 10	1000-1130	CAB 335	TBA
			62092	Lab 10	1140-1215	CAB 335	
		Restricted to Enginering, Agricultural Engineering and Specialization Geography (Survey Science) students.					
MATH 101 Calculus II	4.5	Sum: FULL	31046	Lec 40	1900-2030	CAB 273	TBA
			24184	Lab 40	2040-2115	CAB 273	
MATH 113 Elementary Calculus I	3	Spr: FULL	55839	Lec 10	1000-1105	CAB 339	TBA
			46712	Lab 10	1115-1150	CAB 339	
MATH 113 Elementary Calculus I	3	Spr: FULL	11678	Lec 11	1900-2020MTWR	CAB 273	TBA
			93424	Lab 11	2030-2105	CAB 273	
MATH 113 Elementary Calculus I	3	Sum: FULL	23356	Lec 40	0845-0950	CAB 281	TBA
			86848	Lab 40	1000-1035	CAB 335	
MATH 115 Elementary Calculus II	3	Spr: FULL	26253	Lec 10	1000-1105	CAB 343	TBA
MATH 115 Elementary Calculus II	3	Sum: FULL	52506	Lec 40	0845-0950	CAB 343	TBA
MATH 120 Linear Algebra I	3	Spr: FULL	26114	Lec 10	1330-1435	CAB 343	TBA

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
MATH 120 Linear Algebra I	3	Spr: FULL	52228	Lec 11	1900-2020MTWR	CAB 281	TBA
MATH 120 Linear Algebra I	3	Sum: FULL	04456	Lec 40	1115-1220	CAB 281	TBA
MATH 121 Linear Algebra II	3	Sum: FULL	15439	Lec 40	1115-1220	CAB 335	TBA
MATH 153 Mathematics of Finance I	3	Spr: FULL	60408	Lec 10	0845-0950	CAB 339	TBA
MATH 201 Differential Equations I	3	Spr: FULL	51343 02687	Lec 10 Lab 10	1330-1435 1445-1520	CAB 335 CAB 335	TBA
MATH 214 Intermediate Calculus I	3	Spr: FULL	80250	Lec 10	1000-1105	CAB 349	TBA
MATH 215 Intermediate Calculus II	3	Sum: FULL	84143	Lec 40	1000-1105	CAB 339	TBA
MATH 223 Introduction to Abstract Algebra	3	Spr: FULL	06249	Lec 10	0845-0950	CAB 349	TBA
MATH 241 Geometry I	3	Spr: FULL	05201	Lec 10	0845-0950	CAB 343	TBA
MATH 242 Geometry II	3	Sum: FULL	61720	Lec 40	1330-1435	CAB 281	TBA
MATH 253 Theory of Interest	3	Spr: FULL	84336	Lec 10	1115-1220	CAB 281	TBA
MATH 311 Theory of Functions of a Complex Variable	3	Spr: FULL	24358	Lec 10	1115-1220	CAB 349	TBA
MATH 323 Applied Algebra I	3	Spr: FULL	39003	Lec 10	1330-1435	CAB 349	TBA
MATH 324 Elementary Number Theory	3	Sum: FULL	68937	Lec 40	0845-0950	CAB 349	TBA
MATH 334 Introduction to Differential Equations	3	Sum: FULL	49724	Lec 40	1000-1105	CAB 349	TBA
MGTSC 301 Probability and Statistics For Business, Part I	3	Spr: FULL Restricted to Business students. Other students require written approval of their faculty and consent of the Faculty of Business; 3-23 Business; 492-5693.	23606	Lec 10	1300-1405	BUS B-06	C. Oickle

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
MGTSC 312 Probability and Statistics for Business, Part II	3	Sum: FULL	39338	Lec 40	0845-0950	BUS B-12	C. Wolsey
MGTSC 352 Operations Management	3	Sum: FULL	98438	Lec 40	1000-1105	BUS B-10	C. Wolsey
		Restricted to Business students. Other students require written approval of their faculty and consent of the Faculty of Business; 3-23 Business; 492-5693.					
MUSIC 100 Rudiments of Music	3	Spr: FULL	60146	Lec 10	0845-0950	FAB 1-29	C. Lewis
		Not open to B.Music (Honors) or B.A. (Honors) students.					
MUSIC 100 Rudiments of Music	3	Sum: FULL	20293	Lec 40	1000-1105	FAB 1-23	C. Derfler
		Not open to B.Music (Honors) or B.A. (Honors) students.					
MUSIC 101 Introduction to Music	3	Spr: FULL	15106	Lec 10	1000-1105	FAB 2-32	B. Dalen
MUSIC 165 Introduction to World Music	3	Spr: FULL	66355	Lec 10	1115-1220	FAB 2-34	K. Chen
MUSIC 201 Masterworks of Music	3	Sum: FULL	74057	Lec 40	1000-1105	FAB 2-32	B. Dalen
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Prerequisite: Music 101 or equivalent.					
MUSIC 209 Woodwind Techniques I	3	Sum: JUL2-19	05927	Lec 60	1000-1220	FAB 1-29	W. Street
MUSIC 211 Woodwind Techniques II	3	Sum: JUL22-AUG9	02817	Lec 60	1000-1220	FAB 1-29	W. Street
MUSIC 431 Band Techniques	3	Spr: FULL	71513	Lcl 10	1830-2115MW	FAB 1-29	F. Pier
NS 101 Introductory Cree	6	Spr: MAY6-JUN21	X05204	Lec 30	0900-1200M-R	ED N2-117	M. Memnook
			X05204	Lec 30	1300-1520M-W	ED N2-117	
			X54204	Lab 30	1530-1730T	FA 1-23	
			X54204	Lab 30	1300-1520R	FA 1-23	
		Closed to telephone registration. Contact the School of Native Studies; 11023 - 90 Ave.; 492-2991 for registration assistance.					
NS 101 Introductory Cree	6	Spr: MAY6-JUN21	X15204	Lec 31	0900-1200	SLAVE LAKE	TBA
			X74204	Lab 31	TBA	SLAVE LAKE	
		Closed to telephone registration. Contact the School of Native Studies; 11023 - 90 Ave.; 492-2991 for registration assistance.					
NS 310 Native Issues and Insights (I)	3	Spr: MAY6-31	11057	Lec 30	1000-1200MTWR	ED N2-139	D. Stretch-Strang
NS 311 Native Issues and Insights (II)	3	Spr: FULL	25319	Lec 10	1300-1450MTW	ED N2-147	T. Ferguson
		Pre-session study is required. See "Pre-Session Study" section following this timetable.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
NS 340 Native Law	3	Spr: FULL	54931	Lec 10	TBA	YELLOWKNIFE (Arctic College)	TBA
NS 390 Community Research Methods	3	Sum: FULL Pre-session study is required.	16931	Lec 40	1000-1105 See "Pre-Session Study" section following this timetable.	T B-100	D. Brown
NS 403 Selected Topics in Native Studies: Processes in Native Community Development	3	Sum: JUL2-12 Pre-session study is required.	37729	Lec 60	0900-1335 See "Pre-Session Study" section following this timetable.	T B-104	G. Ensign-Langin
NURS 311 Clinical Nursing Practicum	3	Spr: MAY 6-24 Restricted to students in the B.Sc. Nursing program. Students registered in this course may not register in another course in this term.	55823	Sem 10	0700-1550	HOSPITALS	TBA
NURS 311 Clinical Nursing Practicum	3	Spr: MAY6-24 Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.	11646	Sem 11	0700-1550	HOSPITALS	TBA
NURS 311 Clinical Nursing Practium	3	Spr: MAY 6-24 Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.	23292	Sem 12	0700-1550	HOSPITALS	TBA
NURS 311 Clinical Nursing Practicum	3	Spr: MAY 6-24 Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.	46584	Sem 13	0700-1550	HOSPITALS	TBA
NURS 311 Clinical Nursing Practicum	3	Spr: MAY 6-24 Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.	93168	Sem 14	0700-1550	HOSPITALS	TBA
NURS 311 Clinical Nursing Practicum	3	Spr: MAY 6-24 Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.	86337	Sem 15	0700-1550	HOSPITALS	TBA
NURS 311 Clinical Nursing Practicum	3	Spr: MAY6-24 Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.	72674	Sem 16	0700-1550	HOSPITALS	TBA
NURS 311 Clinical Nursing Practicum	3	Spr: MAY 6-24 Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.	45348	Sem 17	0700-1550	HOSPITALS	TBA
NURS 311 Clinical Nursing Practicum	3	Spr: MAY 6-24 Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.	90696	Sem 18	0700-1550	HOSPITALS	TBA
NURS 311 Clinical Nursing Practicum	3	Spr: MAY6-24 Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.	81392	Sem 19	0700-1550	HOSPITALS	TBA

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
NURS 311 Clinical Nursing Practicum	3	Spr: MAY6-24	62784	Sem 20	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 311 Clinical Nursing Practicum	3	Spr: MAY6-24	25568	Sem 21	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 311 Clinical Nursing Practicum	3	Spr: MAY6-24	51136	Sem 22	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 311 Clinical Nursing Practicum	3	Spr: MAY6-24	02272	Sem 23	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 325 Clinical Nursing in Acute Care Settings II	3	Spr: MAY6-24	01969	Sem 10	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course concurrently.					
NURS 325 Clinical Nursing in Acute Care Settings II	3	Spr: MAY6-24	03938	Sem 11	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 325 Clinical Nursing in Acute Care Settings II	3	Spr: MAY6-24	07884	Sem 12	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 325 Clinical Nursing in Acute Care Settings II	3	Spr: MAY6-24	15768	Sem 13	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 325 Clinical Nursing in Acute Care Settings II	3	Spr: MAY6-24	31543	Sem 14	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 325 Clinical Nursing in Acute Care Settings II	3	Spr: MAY6-24	63086	Sem 15	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 325 Clinical Nursing in Acute Care Settings II	3	Spr: MAY6-24	26172	Sem 16	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 325 Clinical Nursing in Acute Care Settings II	3	Spr: MAY6-24	52344	Sem 17	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 325 Clinical Nursing in Acute Care Settings II	3	Spr: MAY6-24	04688	Sem 18	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
NURS 325 Clinical Nursing in Acute Care Settings II	3	Spr: MAY6-24	09376	Sem 19	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 325 Clinical Nursing in Acute Care Settings II	3	Spr: MAY6-24	18752	Sem 20	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 325 Clinical Nursing in Acute Care Settings II	3	Spr: MAY6-24	37504	Sem 21	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 325 Clinical Nursing in Acute Care Settings II	3	Spr: MAY6-24	75008	Sem 22	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 325 Clinical Nursing in Acute Care Settings II	3	Spr: MAY6-24	50016	Sem 23	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 377 Nursing Care of Emergency and Intensive Care Patients I	3	Spr: MAR11-APR29	10409	Lec 30	0700-1550	HOSPITALS	D. Brown
			20818	Cln 30		HOSPITALS	
		Restricted to students in the ICU program in Nursing.					
NURS 378 Nursing Care of Emergency and Intensive Care Patients II	3	Spr: APR30-JUN28	42957	Lec 30	0700-1550	HOSPITALS	TBA
			85914	Cln 30		HOSPITALS	
		Restricted to students in the ICU program in Nursing.					
NURS 464 Nursing of Clients with Health Deviations III	6	Spr: FULL	78633	Sem 20	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 464 Nursing of Clients with Health Deviations III	6	Spr: FULL	57266	Sem 21	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 464 Nursing of Clients with Health Deviations III	6	Spr: FULL	14533	Sem 22	0700-1550	HOSPITALS	M. Allen
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 464 Nursing of Clients With Health Deviations III	6	Spr: FULL	29066	Sem 23	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 464 Nursing of Clients with Health Deviations III	6	Spr: FULL	58132	Sem 24	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 464 Nursing of Clients with Health Deviations III	6	Spr: FULL	16264	Sem 25	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
NURS 464 Nursing of Clients with Health Deviations III	6	Spr: FULL	32530	Sem 26	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 464 Nursing of Clients with Health Deviations III	6	Spr: FULL	65060	Sem 27	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 464 Nursing of Clients with Health Deviations III	6	Spr: FULL	30120	Sem 28	0700-1550	HOSPITALS	TBA
		Restricted to students in the B.Sc. Nursing program. Students registering in this course may not register in another course in this term.					
NURS 480 Trends and Issues	3	Spr: FULL	10226	Lec 10	TBA	HOSPITALS	TBA
			40904	Lab 10	TBA	HOSPITALS	
		Restricted to students in the B.Sc. Nursing program.					
NURS 480 Trends and Issues	3	Spr: FULL	20452	Lec 11	TBA	HOSPITALS	J. Kerr
			81808	Lab 11	TBA	HOSPITALS	
		Restricted to students in the B.Sc. Nursing program.					
NURS 481 Management of Nursing Systems	4	Spr: FULL	16146	Lec 10	0900-1600MT	HOSPITALS	TBA
			32292	Lab 10	0700-1500WRF	HOSPITALS	
		Restricted to students in the BSCN program in Nursing.					
NURS 560 Advanced Study in Nursing: Curriculum Development in Nursing	3	Spr: FULL	X48513	Lec 10	1630-1930TR	CS 6-120	J. Ford
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. Contact Faculty of Nursing (Elaine Carswell) at 492-6251 for registration assistance.					
NURS 560 Advanced Study in Nursing: Clinical Teaching in Nursing Practice	3	Spr: FULL	X78513	Lec 11	1630-1930MW	CS 6-120	D. Wertenberger
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. Open to MN students only. Other students require consent of faculty. Contact Faculty of Nursing(Elaine Carswell) at 492-6251 for registration assistance.					
NURS 560 Advanced Study in Nursing: Theories of Drug and Substance Abuse	3	Spr: FULL	X88513	Lec 12	1700-2000TR	CS 6-101	A. Pagliaro
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. Contact Faculty of Nursing (Elaine Carswell) at 492-6251 for registration assistance					
NURS 560 Advanced Study in Nursing: Research and Practice in Parent and Infant/Child Assessment and Intervention	6	Spr: FULL	X16204	Lec 20	1630-1930MW	CS 6-101	M. Elliott
				Cln 20			
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. (Prerequisite: NURS 505, if this course is taken as an alternate to NURS 506 by MN students.) (6-120 CS). Contact Faculty of Nursing (Elaine Carswell) 492-6251 for registration assistance.					
OCCTH 106 Communication Theory and Helping Relationship	3	Spr: MAY6-24	81756	Lec 30	1030-1250	RT 120	B. Fifield
OCCTH 107 Models, Approaches, and Service Delivery	3	Spr: MAY6-24	67831	Lec 30	0800-1020	RT 120	R. Urbanowski

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
OCCTH 328 Fieldwork	3	Spr: VARIABLE	51519	Cln 30	All Day	AGENCIES	R. Urbanowski
		Restricted to Occupational Therapy students. Eight weeks full-time level-one fieldwork in assigned facilities. Contact the Department of Occupational Therapy; UAH Ed&Dev Centre; 492-5949 for registration procedures.					
OCCTH 328 Fieldwork	3	Sum: VARIABLE	05512	Cln 60	All Day	AGENCIES	R. Urbanowski
		Restricted to Occupational Therapy students. Eight weeks full time level-one fieldwork in assigned facilities. Contact the Department of Occupational Therapy; UAH Ed&Dev Centre; 492-5949 for registration procedures.					
OCCTH 410 Fieldwork	3	Spr: FULL	95948	Cln 10	All Day	AGENCIES	R. Urbanowski
		Restricted to Occupational Therapy students. Six weeks of full-time level-three fieldwork in assigned facilities. Contact the Department of Occupational Therapy; UAH Ed&Dev Centre; 492-5949 for registration procedures.					
OCCTH 410 Fieldwork	3	Sum: FULL	91896	Cln 40	All Day	AGENCIES	R. Urbanowski
		Restricted to Occupational Therapy students. Six weeks of full time level-three fieldwork in assigned facilities. Contact the Department of Occupational Therapy; UAH Ed&Dev Centre; 492-5949 for registration procedures.					
OCCTH 411 Fieldwork	3	Spr: FULL	74217	Cln 10	All Day	AGENCIES	R. Urbanowski
		Restricted to Occupational Therapy students. Six weeks of full-time level-three fieldwork in assigned facilities. Contact the Department of Occupational Therapy; UAH Ed&Dev Cenre; 492-5949 for registration procedures.					
OCCTH 411 Fieldwork	3	Sum: FULL	48434	Cln 40	All Day	AGENCIES	R. Urbanowski
		Restricted to Occupational Therapy students. Six weeks of full time level-three fieldwork in assigned facilities. Contact the Department of Occupational Therapy; UAH Ed&Dev Centre; 492-5949 for registration procedures.					
OCCTH 412 Fieldwork	3	Spr: VARIABLE	50848	Cln 30	All Day	AGENCIES	R. Urbanowski
		Resticted to Occupational Therapy students. Five weeks of full-time level-three fieldwork in assigned facilities. Contact Department of Occupational Therapy; UAH Ed&Dev; 492-5949 for registration procedures.					
OCCTH 412 Fieldwork	3	Sum: VARIABLE	01696	Cln 60	All Day	AGENCIES	R. Urbanowski
		Restricted to Occupational Therapy students. Five weeks of full time level-three fieldwork in assigned facilities. Contact the Department of Occupational Therapy; UAH Ed&Dev Centre; 492-5949 for registration procedures.					
OCCTH 428 Fieldwork	3	Spr: VARIABLE	08524	Cln 30	All Day	AGENCIES	R. Urbanowski
		Restricted to Occupational Therapy students. Eight weeks full-time level-two fieldwork in assigned facilities. Contact the Department of Occupational Therapy; UAH Ed&Dev Centre; 492-5949 for registration procedures.					
OCCTH 428 Fieldwork	3	Sum: VARIABLE	17048	Cln 60	All Day	AGENCIES	R. Urbanowski
		Restricted to Occupational Therapy students. Eight weeks full time level-two feildwork in assigned facilities. Contact the Department of Occupational Therapy; UAH Ed&Dev Centre; 492-5949 for registration procedures.					
OCCTH 498 Special Seminars: Human Sexuality - Interaction in Helping Relationships	3	Spr: MAY6-24	52941	Sem 30	See Note	ED N2-103	B. Fifield/O. Fifield
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Classes will meet Saturday, May 11, 1991 & Sunday, May 12, 1991 in EDN 2-103 from 0900-1700 (attendance compulsory) and May 13-May 24, 1991 in RT 120 from 1630-1850. Open to all students.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
OCCTH 598 Special Seminars: Rehabilitation Issues and Aging	3	Spr: FULL	92251	Sem 10	1600-1705	ED 129	A. Sinha
ORG A 502 The Individual in Groups and Organizations	3	Spr: SEE NOTE	71454	Lec 30	1830-2200	BUS B-06	S. Scott-Hallam
		Restricted to graduate students or by consent of Associate Dean (MBA/MPM Program) Faculty of Business; 2-30 Business;492-3946. Class dates will be Apr. 23,25,30, May 2,7,14,21,28 June 4,11,13, &18.					
ORG A 686 Selected Topics in Behavioural Sciences	3	Spr: MAY6-AUG16	51115	Lec 30	TBA	TBA	M. James Dunn
		Restricted to graduate students or by consent of Associate Dean (MBA/MPM Program) Faculty of Business; 2-30 Business; 492-3946.					
ORG T 301 Behavior in Organizations	3	Spr: FULL	42846	Lec 10	0845-0950	BUS 4-13	N. Phillips
		Restricted to Business students. Other students require written approval of their faculty and consent of the Faculty of Business; 2-30 Business; 492-5693.					
ORG T 301 Behaviour in Organizations	3	Sum: FULL	85692	Lec 40	1300-1450TWR	BUS 4-05	R. Bradford
		Restricted to Business students. Other students require written approval of their faculty and consent of the Faculty of Business; 3-30 Business; 492-5693.					
ORG T 311 Theory of Formal Organizations	3	Spr: FULL	76147	Lec 10	1000-1105	BUS 4-13	J. Rigby
		Restricted to Business students. Other students require written approval of their faculty and consent of the Faculty of Business; 3-30 Business; 492-5693.					
PAC 200 Swimming	1.5	Spr: FULL	91613	Lbl 10	1930-2050TR	PE E-POOL	TBA
		Practice session from 2050-2130					
PAC 200 Swimming	1.5	Sum: FULL	02613	Lbl 40	0730-0850TR	PE E-POOL	TBA
		Practice session from 0850-0930.					
PAC 211 Basketball	1.5	Spr: FULL	33613	Lbl 10	1000-1120TR	PE M-GYM	TBA
		Practice session from 1120-1200.					
PAC 231 Badminton	1.5	Spr: FULL	04613	Lbl 10	1230-1350TR	PE M-GYM	TBA
		Practice session from 1350-1430.					
PAC 233 Racquetball	1.5	Spr: FULL	55613	Lbl 10	1000-1120TR	PE E-CRTS	TBA
		Practice session from 1120-1200.					
PAC 234 Squash	1.5	Spr: FULL	56613	Lbl 10	1600-1720TR	PE E-CRTS	TBA
		Practice session from 1720-1800.					
PAC 235 Tennis	1.5	Spr: FULL	18613	Lbl 10	0800-0920TR	TENNIS CTR	TBA
		Practice session from 0920-1000					
PAC 235 Tennis	1.5	Spr: FULL	28613	Lbl 11	0800-0920MW	TENNIS CTR	TBA
		Practice session from 0920-1000					
PAC 235 Tennis	1.5	Sum: FULL	78613	Lbl 40	0800-0920MW	TENNIS CTR	TBA
		Practice session from 0920-1000.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
PAC 235 Tennis	1.5	Sum: FULL	88613	Lbl 41	0800-0920TR	TENNIS CTR	TBA
		Practice session from 0920-1000.					
PAC 240 Baseball/Fastball	1.5	Sum: FULL	56512	Lbl 40	0800-0920TR	PAV 318	TBA
		Practice session from 0920-1000.					
PAC 245 Golf	1.5	Spr: MAY6-MAY24	54636	Lbl 30	1000-1120	PE W-01	R. Alderman
		Practice session from 1120-1200. Students must pay up to $35.00 on green fees and driving range fees to the Department of Physical Education and Sport Studies at the first class. Golf clubs available if required.					
PAC 245 Golf	1.5	Spr: MAY27-JUN14	09272	Lbl 31	1000-1120	PE W-01	TBA
		Practice session from 1120-1200. Students must pay up to $35.00 on green fees and driving range fees to the Department of Physical Education and Sport Studies at the first class. Golf clubs available if required.					
PAC 245 Golf	1.5	Sum: JUL2-19	18544	Lbl 60	1000-1120	PE W-01	TBA
		Practice time from 1120-1200. Students must be prepared to spend up to $35.00 on green fees and driving range fees. This will be paid to the Department of Physical Education and Sport Studies at the first class meeting. Golf clubs will be made available for those requiring them for class use.					
PAC 245 Golf	1.5	Sum: JUL22-AUG19	37088	Lbl 61	1000-1120	PE W-01	TBA
		Practice time from 1120-1200. Students must be prepared to spend up to $35.00 on green fees and driving range fees. This will be paid to the Department of Physical Education and Sport Studies at the first class meeting. Golf clubs will be made available for those requiring them for class use.					
PAC 270 Track and Field	1.5	Spr: FULL	09613	Lbl 10	0730-0850TR	PE W-FIELD	TBA
		Practice session from 0850-0930.					
PAC 300 Advanced Aquatics	3	Spr: FULL	38931	Lec 10	0730-0920MWF	PE W-POOL	TBA
PAC 300 Advanced Aquatics	3	Sum: FULL	68931	Lec 40	0730-0835	PE W-POOL	TBA
PAC 303 Skin and Scuba Diving	3	Spr: FULL	79931 69931	Lec 10 Lab 10	1000-1150MWF TBA	PAV 318 PE W-POOL	TBA
PAC 311 Analysis and Instruction of Basketball	3	Spr: FULL	12041	Lec 10	0730-0835	PE W1-39	TBA
PAC 355 Introduction to Yoga	3	Spr: FULL	64041	Lec 10	1000-1105	PE W-07	M. Singh
PAC 355 Introduction to Yoga	3	Spr: FULL	74041	Lec 11	1630-1735	PE W-07	M. Singh
PAC 380 Small Craft Leadership	3	Spr: MAY6-31	X16620 X29155	Sem 30 Lab 30	All Day TBA	PAV 153	G. Hanna
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. Taught in conjunction with PESS 382 Sem/Lab 30. Contact the Department of Physical Education and Sport Studies; P421 Van Vliet; 492-5601. There will be an initial meeting of this class held on-campus, after which the course will be taught at an off-campus location.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
PESS 203 Skill Acquisition and Performance	3	Spr: FULL	58919	Lec 10	1300-1405	PAV 318	M. Boufford
PESS 210 Physical Fitness Theory and Practice	3	Spr: FULL	65041 55041	Lec 10 Lab 10	1830-1935 1935-2010	PE W-01 PE E-452	TBA
PESS 260 Introduction to Coaching	3	Spr: FULL	59041	Lec 10	1630-1735	PAV 318	TBA
PESS 292 Introduction to the Movement Activities of Children Aged 0-8	3	Spr: MAY6-MAY24	22707	Sem 30	0730-0950	ED 177	TBA
PESS 293 Introduction to the Movement Activities of Children Aged 5-12	3	Spr: MAY6-MAY24	23415	Sem 30	1000-1220	ED 177	TBA
PESS 294 Introduction to the Movement Activities of Youth	3	Spr: MAY27-JUN14	49512 69512	Lec 30 Sem 30	0730-0815 0815-0950	ED 170 ED 170	TBA
PESS 302 Motor Learning, Memory and Control	3	Spr: FULL	91141	Lec 10	1000-1105	PE E120	TBA
PESS 304 Sociology of Physical Education and Sport	3	Spr: FULL	04141 24141	Lec 10 Sem 10	1000-1105 1115-1155	PE E-436 PE E-466	TBA
PESS 308 Motor Development and Motor Learning	3	Spr: FULL	94659	Lec 10	1830-1935	PE W1-39	TBA
PESS 309 Introduction to the Scientific Basis of Human Movement	3	Spr: FULL	88742	Lec 10	0730-0835	PE E-120	TBA
PESS 310 Advanced Conditioning Methodology	3	Spr: FULL	56141	Lec 10	1330-1435	PE E-436	TBA
PESS 382 Wilderness Living, Navigation and Travel	3	Spr: MAY6-31	X04218 X52109	Sem 30 Lab 30	All Day All Day	PAV 153 PAV 153	TBA

Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. Taught in conjunction with PAC 380 Sem/Lab 30. Contact the Department of Physical Education and Sport Studies; P421 Van Vliet; 492-5601 for registration procedures.

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
PESS 382 Wilderness Living, Navigation and Travel	3	Sum: JUL2-21	X30304	Sem 60	All Day	PAV 153	TBA
			X79204	Lab 60	All Day	PAV 153	
		Closed to telephone registration. Taught in conjunction with PESS 590 Sem/Lab 60. Contact the Department of Physical Education and Sport Studies; P421 Van Vliet; 492-5601 for registration procedures. There will be an initial meeting of this class held on-campus, after which the course will be taught primarily off-campus.					
PESS 385 Outdoor Environmental Leadership Practicum I	3	Sum: JUL2-21	X12304	Lec 60	All Day	PAV 153	TBA
			X81304	Lbl 60	All Day	PAV 153	
		Closed to telephone registration. Taught in conjunction with PESS 591 Sem 60. Contact the Department of Physical Education and Sport Studies; P421 Van Vliet; 492-5601 for registration procedures. There will be an initial meeting of this class held on-campus, after which the course will be taught primarily off-campus.					
PESS 401 History of Physical Education and Sport	3	Spr: FULL	27141	Lec 10	1330-1435	PE W-01	TBA
PESS 404 Comparative Physical Education and Sport	3	Spr: FULL	88141	Lec 10	0800-0950MWF	PE W-01	TBA
PESS 490 Applied Ethics in Physical Education and Sport	3	Spr: FULL	73612	Lec 10	1000-1105	PE W1-39	TBA
			83612	Sem 10	1115-1155	PE W1-39	
		Restricted to 4th year BPE students.					
PESS 494 Physical Activity and Aging	3	Sum: FULL	12241	Lec 40	1800-2045MW	PE E-436	TBA
			81241	Lab 40	1800-2045F	PE E-436	
PESS 499 Directed Studies: Wilderness Living Skills, Arts, and Crafts	3	Spr: MAY6-31	X50056	Sem 30	All Day	PAV 153	M. Kochanski
		Pre-session study is required. See "Pre-Session Study" section following this timetable. Closed to telephone registration. Contact the Department of Physical Education and Sport Studies;P421 Van Vliet; 492-5601 for registration procedures.					
PESS 499 Directed Studies: Sport and Drugs	3	Spr: MAY9-29	53241	Sem 31	1900-2120	PE E-436	TBA
		PESS 499-31 and PESS 582-30 will be taught in conjunction.					
PESS 499 Athletic Activity in a Film Medium	3	Sum: JUL2-19	63241	Sem 60	1900-2120	PE E-120	TBA
		Taught in conjunction with PESS 599 Sem 60.					
PESS 582 Graduate Seminar: Sport and Drugs	3	Spr: MAY9-29	06241	Sem 30	1900-2100	PE E-436	TBA
		PESS 582-30 and PESS 499-31 will be taught in conjunction.					
PESS 590 Research and Directed Studies I	3	Sum: JUL2-21	X03304	Sem 60	All Day	PAV 153	TBA
		Closed to telephone registration. Contact the Department of Physical Education and Sport Studies; P421 Van Vliet Centre; 492-5601 for registration procedures. There will be an initial meeting of this class held on-campus, after which the course will be taught primarily off-campus. Taught in conjunction with PESS 382 Sem/Lab 60.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
PESS 591 Research and Directed Studies II	3	Sum: JUL2-21	X43304	Sem 60	All Day	PAV 153	TBA
		Closed to telephone registration. Contact the Department of Physical Education and Sport Studies; P421 Van Vliet Centre; 492-5601 for registration procedures. There will be an initial meeting of this class held on-campus, after which the course will be taught primarily off-campus. Taught in conjunction with PESS 385 Lec/Lbl 60.					
PESS 599 Athletic Activity	3	Sum: JUL2-19	08355	Sem 60	1900-2120	PE E-120	TBA
		Taught in conjunction with PESS 499 Sem 60.					
PHIL 121 Practical Logic	3	Spr: FULL	64718	Lec 10	1000-1105	HC 2-14	TBA
PHIL 122 Elementary Symbolic Logic	3	Sum: FULL	09650	Lec 40	0845-0950	HC 2-14	TBA
PHIL 130 Problems of Philosophy	3	Sum: FULL	81613	Lec 40	1000-1105	HC 2-21	TBA
PHIL 139 Philosophical Analysis of Contemporary Issues	3	Spr: FULL	60956	Lec 10	0845-0950	HC 2-21	TBA
PHIL 140 Introduction to Western Philosophy	6	Spr: FULL	12337	Lec 20	1000-1220	HC 2-30	TBA
PHIL 303 Human Beings in Society	3	Spr: FULL	45513	Lec 10	1330-1435	SJ 102	M. Ross
		Offered by St. Joseph's College					
PHIL 323 Philosophy of Mind	3	Sum: FULL	59335	Lec 40	1115-1220	HC 2-15	TBA
PHIL 332 Feminist Issues in Political and Social Philosophy	3	Spr: FULL	92513	Lec 10	1800-2045TR	HC 1-11	TBA
PHIL 339 Ethics I	3	Sum: FULL	61713	Lec 40	1330-1435	HC 2-30	TBA
PHIL 364 Introduction to Philosophy of Science	3	Spr: FULL	74656	Lec 10	1330-1435	HC 2-12	TBA
PHILE 121 Logique pratique	3	Spr: FULL	00708 01419	Lec 10 SEM 10	1000-1105 1115-1150	FSJ FSJ	V. Nguyen
PHYS 105 Introductory General Physics I (Mechanics)	3	Spr: MAY6-24	44304 24304	Lec 30 Lab 30	1000-1220 1330-1655	V 106 P 113	TBA

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
PHYS 106 Introductory General Physics II	3	Spr: MAY24-JUN14	47304 16304	Lec 30 Lab 30	1000-1220 1330-1655	V 106 P 113	TBA
PL SC 505 Research Project in Plant Science	3	Spr: MAY6-17	65920	Sem 30	0830-1630	AF 5-22	Szalay/Langridge
PMCOL 222 Drugs, Medicine and Man	3	Sum: JUL2-19	61341	Lec 60	1000-1220	MS 231	T. Allen/D. Cook/S. Dunn
PMCOL 405 An Introduction to the Pharmacology of Drug Abuse	3	Spr: FULL Students registering in this course require permission of the instructor. Contact E.G. Hunter at 492-2188	56341	Lec 10	0845-0950	MS 240	E.G. Hunter
POL S 300 Comparative Political Systems	6	Spr: FULL	96804	Lec 20	1000-1220	T B-38	R. Gilsdorf/C. Mensah
POL S 312 Ethics and Politics	3	Spr: FULL	70726	Lec 10	0845-0950	T 1-103	M. Bradley
POL S 312 Ethics and Politics	3	Spr: FULL	41454	Lec 11	1330-1435	T 1-96	M. Bradley
POL S 312 Ethics and Politics	3	Sum: FULL	82908	Lec 40	1330-1435	T 1-105	M. Smith
POL S 321 Canadian Government	3	Sum: FULL	63952	Lec 40	1000-1105	T 1-103	TBA
POL S 360 International Relations	6	Sum: FULL	92713	Lec 50	1000-1220	T 1-96	S. Swarup
POL S 363 Issues in International Politics	3	Spr: FULL	84541	Lec 10	1445-1550	T 1-103	M. Smith
POL S 363 International Politics	3	Sum: FULL	69082	Lec 40	1330-1435	T 1-91	Y. Xu
POL S 376 Problems of Political Development	3	Spr: FULL	14713	Lec 10	1330-1435	T 1-119	C. Mensah
PS ED 482 Sensibilisation aux difficultes d'apprentissage chez l'enfant d'age scolaire	3	Sum: JUL15-26 New course added	35511	Lec 60	0900-1200 And 1315-1430	FSJ FSJ	TBA

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
PSYCO 104 Basic Psychological Processes	3	Spr: FULL	13748	Lec 10	1000-1105	BS G-116	TBA
PSYCO 104 Basic Psychological Processes	3	Spr: FULL	27496	Lec 11	1000-1105	BS M-137	TBA
PSYCO 104 Basic Psychological Processes	3	Sum: FULL	54992	Lec 40	0845-0950	BS G-116	TBA
PSYCO 105 Individual and Social Behavior	3	Spr: FULL	00511	Lec 10	0845-0950	BS G-116	TBA
PSYCO 105 Individual and Social Behavior	3	Spr: FULL	01022	Lec 11	1115-1220	BS G-116	TBA
PSYCO 105 Individual and Social Behavior	3	Sum: FULL	02044	Lec 40	1000-1105	BS B-121	TBA
PSYCO 211 Statistical Methods for Psychological Research	3	Sum: FULL	85458 70916	Lec 40 Lab 40	1000-1105 1115-1150	BS M-137 BS M-137	TBA
PSYCO 223 Developmental Psychology	3	Sum: FULL	40625	Lec 40	0845-0950	BS B-105	TBA
PSYCO 233 Personality	3	Sum: FULL	05829	Lec 40	1000-1105	BS B-105	TBA
PSYCO 241 Social Psychology	3	Spr: FULL	87329	Lec 10	0845-0950	BS M-137	TBA
PSYCO 258 Cognitive Psychology	3	Spr: FULL	08306	Lec 10	1000-1105	BS M-229	TBA
PSYCO 275 Brain and Behavior	3	Sum: FULL	04637	Lec 40	1115-1220	BS M-132	TBA
PSYCO 281 Principles of Behavior Change	3	Sum: FULL	25612	Lec 40	1000-1105	BS M-141	TBA
PSYCO 288 Principles of Learning	3	Spr: FULL	69045	Lec 10	1000-1105	BS M-132	TBA
PSYCO 339 Abnormal Psychology	3	Sum: FULL	61547	Lec 40	1000-1105	BS G-116	TBA

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
PSYCO 353 Memory & Attention	3	Spr: FULL	77317	Lec 10	0845-0950	BS G-208	TBA
PSYCO 431 Theory and Practice of Psychometrics	3	Spr: FULL	01609 03218	Lec 10 Lab 10	1115-1220 1300-1515	BS M-137 BS M-229	TBA
		Pre-session study is required. See "Pre-Session Study" section following this timetable.					
PTHER 429 Clinical Practice IV	3	Spr: VARIABLE	80606	Cln 30	All Day	AGENCIES	G. Rennie
		Restricted to Physical Therapy students - assigned placements					
PTHER 429 Clinical Practice IV	3	Sum: VARIABLE	61212	Cln 60	All Day	AGENCIES	G. Rennie
		Restricted to Physical Therapy students - assigned placements					
PTHER 431 Clinical Practice V	4.5	Spr: VARIABLE	50714	Cln 30	All Day	AGENCIES	G. Rennie
		Restricted to Physical Therapy students - assigned placements					
PTHER 431 Clinical Practice V	3	Sum: VARIABLE	01428	Cln 60	All Day	AGENCIES	G. Rennie
		Restricted to Physical Therapy students - assigned placements					
PTHER 433 Clinical Practice VI	4.5	Spr: VARIABLE	88752	Cln 30	All Day	AGENCIES	G. Rennie
		Restricted to Physical Therapy students - assigned placements					
PTHER 433 Clinical Practice VI	4.5	Sum: VARIABLE	77504	Cln 60	All Day	AGENCIES	G. Rennie
		Restricted to Physical Therapy students -assigned placements					
R SOC 391 Principles of Rural Extension	3	Spr: MAY6-24	49831	Lec 30	1330-1550	GSB 553	R. Haigh
R SOC 491 Planning and Evaluation of Extension Programs	3	Spr: MAY27-JUN14	62732	Lec 30	1330-1550	GSB 553	R. Haigh
RELIG 277 Women and World Religions	3	Sum: FULL	43006	Lec 40	1330-1435	T B-05	R. Warne
RELIG 304 Buddhism in India: Mahayana	3	Spr: FULL	38201	Lec 10	1115-1220	T B-05	D. Prithipaul
RELIG 356 Christian Theology I	3	Sum: FULL	88750	Lec 40	1000-1105	T B-05	R. Darcus
RELIG 375 Thanatology	3	Spr: FULL	26643	Lec 10	1000-1105	T B-05	B. Miller
RLS 431 Volunteers and Voluntary Organization in Recreation	3	Spr: FULL	58514	Lec 10	1830-2115TR	PAV 318	J. James
RUSS 301 Intensive Second-Year Russian I	6	Spr: FULL	21508 43016	Lec 20 Lab 20	0900-1150 1200-1250	HC 1-07 HC 1-03	N. Wilson

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
RUSS 498 Conference Course (Linguistics) Advanced Intensive Russian	3	Spr: FULL	55854	Lec 10	1000-1105	HC 1-11	A. Tumanov
SOC 100 Introductory Sociology	3	Spr: FULL	32508	Lec 10	0730-0835	T B-70	G. Germain
SOC 100 Introductory Sociology	3	Spr: FULL	65016	Lec 11	0845-0950	T B-05	H. Northcott
SOC 100 Introductory Sociology	3	Spr: FULL	30032	Lec 12	1830-2115TR	T B-05	D. Hubka
SOC 100 Introductory Sociology	3	Sum: FULL	60064	Lec 40	0845-0950	T B-05	A. McKinnon
SOC 101 Canadian Society	3	Spr: FULL	48717	Lec 10	1000-1105	T B-60	D. Forde
SOC 101 Canadian Society	3	Sum: FULL	97434	Lec 40	1000-1105	T B-70	D. Swenson
SOC 102 Social Problems	3	Spr: FULL	55009	Lec 10	1330-1435	T B-05	D. Hubka
SOC 102 Social Problems	3	Sum: FULL	10018	Lec 40	1330-1435	T B-70	H. Davidson
SOC 210 Introduction to Social Statistics	3	Spr: FULL	43118 44944	Lec 10 Lab 10	1730-2015TR TBA	T B-60 T B-39	M. Gillespie
SOC 210 Introduction To Social Statistics	3	Spr: FULL	86236 89888	Lec 11 Lab 11	1730-2015MW 1730-2015TR	T 1-91 T B-76	J. Gartrell
SOC 210 Introduction to Social Statistics	3	Sum: FULL	72472 79789	Lec 40 Lab 40	1800-2045 TR TBA	T B-05 TBA	D. Swenson
SOC 224 Sociology of Deviance and Conformity	3	Spr: FULL	88200	Lec 10	1445-1550	T B-05	P. Saram
SOC 225 Criminology	3	Spr: FULL	07909	Lec 10	1730-2015TR	T B-81	K. Spencer
SOC 225 Criminology	3	Sum: FULL	15818	Lec 40	1800-2045 TR	T B-60	F. Avakame

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
SOC 241 Social Psychology	3	Spr: FULL	36944	Lec 10	1500-1745TR	T B-90	D. Pierce
SOC 241 Social Psychology	3	Spr: FULL	73888	Lec 11	1830-2115TR	T B-90	D. Pierce
SOC 251 Population Concerns	3	Spr: FULL	20719	Lec 10	1115-1220	T B-60	F. Trovato
SOC 260 Inequality and Social Stratification	3	Spr: FULL	45653	Lec 10	1800-2045TR	T B-96	D. Cunningham
SOC 260 Inequality and Social Stratification	3	Sum: FULL	91306	Lec 40	1115-1220	T B-05	D. Bray
SOC 261 Social Organization	3	Spr: FULL	67358	Lec 10	1000-1105	T B-70	D. Starritt
SOC 271 Introduction to the Family	3	Spr: FULL	18434	Lec 10	1730-2015TR	T B-105	W. McVey
SOC 271 Introduction to the Family	3	Spr: FULL	36868	Lec 11	1000-1105	T B-81	H. Northcott
SOC 300 Principles of Sociology	3	Spr: FULL	52430	Lec 10	1730-2015MW	T B-05	L. Derksen
SOC 301 Sociology of Gender	3	Spr: FULL	74838	Lec 10	1115-1220	T B-70	D. Starritt
SOC 315 Introduction to Social Methodology	3	Spr: FULL	87252 98024	Lec 10 Lab 10	0845-0950 1000-1105	T B-70 T B-96	F. Trovato
SOC 315 Introduction to Social Methodology	3	Spr: FULL	74504 96050	Lec 11 Lab 11	1730-2105TR 1730-1950MW	T B-108 T B-60	J. Gartrell
SOC 315 Introduction to Social Methodology	3	Sum: FULL	49012 92100	Lec 40 Lab 40	0845-0950 TBA	T B-70 TBA	D. Brown
SOC 327 Criminal Justice Administration	3	Spr: FULL	61251	Lec 10	1115-1220	T B-76	K. Spencer
SOC 327 Criminal Justice Administration	3	Sum: FULL	22502	Lec 40	1830-2115MW	T B-05	M. Nielsen

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
SOC 332 The Development of Sociology I	3	Spr: FULL	31238	Lec 10	1800-2045TR	T 1-05	T. Simmons
SOC 332 The Development of Sociology I	3	Sum: FULL	62476	Lec 40	0730-0835	T B-05	D. Sayer
SOC 333 The Development of Sociology II	3	Spr: FULL	90927	Lec 10	1000-1105	T 1-05	P. Saram
SOC 333 The Development of Sociology II	3	Sum: FULL	81854	Lec 40	0845-0950	T B-76	D. Sayer
SOC 343 Collective Behavior	3	Spr: FULL	82644	Lec 10	1730-2015MW	T B-70	W. Meloff
SOC 344 Public Opinion and Mass Communication	3	Spr: FULL	59953	Lec 10	1000-1105	T B-105	W. Meloff
SOC 368 Canadian Ethnic and Minority Relations	3	Sum: FULL	45954	Lec 40	1830-2115MW	T B-60	I. Magat
SOC 376 Sociology of Religion	3	Sum: FULL	38918	Lec 40	1445-1550	T B-05	D. Long
SOC 382 Introduction to Medical Sociology	3	Spr: FULL	42008	Lec 10	1500-1745TR	T B-96	G. Jarvis
SOC 459 The Demography of Marriage and Family	3	Spr: FULL	08036	Lec 10	1330-1435	T B-76	W. McVey
SOC 465 Sociology of Complex Organizations	3	Spr: FULL	91645	Lec 10	1115-1220	T B-105	R. Hetherington
SOC 473 Sociology of Death and Dying	3	Spr: FULL	80534	Lec 10	1830-2115TR	T 1-90	G. Jarvis
SPA 400 Introduction to Clinical Practicum	3	Spr: VARIABLE	29543	Cln 10	All Day	AGENCIES	L. McFarlane
		Restricted to Speech Pathology and Audiology students - assigned placements within Edmonton					
SPA 410 Clinical Practicum	3	Spr: VARIABLE	34138	Cln 10	All Day	AGENCIES	L. McFarlane
		Restricted to Speech Pathology and Audiology students - assigned placements within Edmonton					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
SPA 410 Clinical Practicum	3	Spr: VARIABLE	68276	Cln 11	All Day	AGENCIES	L. McFarlane
		Restricted to Speech Pathology and Audiology students - assigned placements outside Edmonton					
SPA 410 Clinical Practicum	3	Sum: VARIABLE	36552	Cln 40	All Day	AGENCIES	L. McFarlane
		Restricted to Speech Pathology and Audiology students - assigned placements.					
SPA 410 Clinical Practicum	3	Sum: VARIABLE	73104	Cln 41	All Day	AGENCIES	L. McFarlane
		Restricted to Speech Pathology and Audiology students - off campus assigned placements.					
SPA 480 Clinical Internship	3	Sum: VARIABLE	23425	Cln 40	All Day	AGENCIES	L. McFarlane
		Restricted to Speech Pathology and Audiology students. Ten weeks full time clinical practice in assigned facilities.					
SPA 480 Clinical Internship	3	Sum: VARIABLE	46850	Cln 41	All Day	AGENCIES	L. McFarlane
		Restricted to Speech Pathology and Audiology students. Ten weeks full time clinical practice in assigned facilities.					
SPAN 100 Beginners' Spanish	6	Spr: FULL	35246	Lec 20	1000-1220 1330-1550MTWR	A 109	TBA
		Students registering in SPAN 100 are advised not to register in other courses in the same term. Audit privileges are not extended to students in this course.					
SPAN 100 Beginners' Spanish	6	Spr: FULL	70492	Lec 21	1000-1220 1330-1550MTWR	T B-117	TBA
		Students registering in SPAN 100 are advised not to register in other courses in the same term. Audit privileges are not extended to students in this course.					
STAT 141 Introduction to Statistics	3	Spr: FULL	70606	Lec 10	1000-1105	CAB 239	TBA
STAT 237 Biostatistics	3	Sum: FULL	32002	Lec 40	1000-1105	CAB 273	TBA
			64005	Lab 40	1115-1150	CAB 273	
STAT 255 Introductory Statistics for Economics	6	Spr: FULL	96002	Lec 20	1000-1220	CAB 229	TBA
			92004	Lab 20	1330-1655	CAB 229	
STAT 265 Elements of Probability Theory	3	Spr: FULL	49557	Lec 10	1330-1435	CAB 281	TBA
STAT 266 Elements of Statistics	3	Sum: FULL	63726	Lec 40	1330-1435	CAB 273	TBA
STAT 341 Applied Statistical Methods	3	Sum: FULL	34528	Lec 40	1000-1105	CAB 229	TBA
			69056	Lab 40	1115-1220	CAB 229	
UKR 327 Early Ukrainian-Canadian Culture	3	Spr: MAY1-14	75427	Lec 30	0900-1600	HC L-01	B. Medwidsky
		This course is offered in co-operation with the Alberta Historic Sites Service for the training of historical interpretors at the Ukrainian Cultural Heritage Village.					

COURSE	WT	TERM	CATALOGUE NUMBER	SECTION TYPE	HOURS/DAYS	BUILDING/ FLOOR/ROOM	INSTRUCTOR(S)
WKEXP 901 Work Experience	0	Spr: MAY1-AUG31	12012	Lec 30	See Note	Field Work	Coordinator
		Registration is limited to students in the Faculty of Engineering - Cooperative Education Program. Field placements will be scheduled over both the Spring and Summer Terms.					
WKEXP 902 Work Experience	0	Spr: MAY1-AUG31	06657	Lec 30	See Note	Fieldwork	Coordinator
		Registration is limited to students in the Faculty of Engineering - Cooperative Education Program. Field placements will be scheduled over both the Spring and Summer Terms.					
WKEXP 903 Work Experience	0	Spr: MAY1-AUG31	77433	Lec 30	See Note	Field Work	TBA
		Registration is limited to students in the Faculty of Engineering - Cooperative Education Program. Field placements will be scheduled over both the Spring and Summer Term.					
WKEXP 904 Work Experience	0	Spr: MAY1-AUG31	94036	Lec 30	See Note	Field Work	TBA
		Registration is limited to students in the Faculty of Engineering - Cooperative Education Program. Field placements will be scheduled over both the Spring and Summer Term.					
WKEXP 905 Work Experience	0	Spr: MAY1-AUG31	52746	Lec 30	See Note	Field Work	TBA
		Registration is limited to students in the Faculty of Engineering - Cooperative Education Program. Field placements will be scheduled over both the Spring and Summer Term.					
ZOOL 120 Principles of Animal Biology	3	Spr: MAY6-24	43736	Lec 30	1000-1220	BS B-105	B. Williams
			82736	Lab 30	1330-1655	BS CW-105	
			13736	Lab 31	1330-1655	BS CW-109	
ZOOL 241 Vertebrate Physiology	3	Spr: MAY6-24	49524	Lec 30	1000-1220	BS B-121	K. Schwalme
		Pre-session study is required. See "Pre-Session Study" section following this timetable.					
ZOOL 260 Man and the Biosphere	3	Sum: FULL	96354	Lec 40	1000-1105	BS G-113	R. Williams

270 Pre-Session Study

Certain courses listed in the **Timetable** require pre-session study. This requirement is shown in the comment section of specific courses.

It is the student's responsibility to obtain the required pre-session study instructions. This may be done in-person by picking up the material at:

Special Registrations
Office of the Registrar
2nd Floor Administration Building
University of Alberta

or by completing the form below and mailing it to:

Special Registrations Co-ordinator
Office of the Registrar
2nd Floor Administration Building
University of Alberta
Edmonton, AB T6G 2M7
Phone: (403) 493-4610

NOTE: Receipt of pre-session study instructions does not confirm registration in course. Registration will be confirmed upon the student's receipt of a Fee Assessment.

cut along line

ATTENTION: SPECIAL REGISTRATIONS CO-ORDINATOR
OFFICE OF THE REGISTRAR
2nd FLOOR, ADMINISTRATION BUILDING
UNIVERSITY OF ALBERTA
EDMONTON, AB T6G 2M7

Please send a copy of the 1991 pre-session study instructions for:

COURSE ABBREVIATION	COURSE NUMBER	COURSE SECTION
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

TO: _____ Full Name

_____ Street/Number

_____ City/Province

_____ Postal Code

I understand that receipt of pre-session study materials does not confirm my registration in the course(s). My registration will be confirmed on receipt of my Fee Assessment.

271 Change of Personal Information

If you are uncertain if the Registrar's Office has your correct mailing address on record, complete and return the form at the bottom of this page to:

Student Access Centre
Office of the Registrar
120 Administration Building
University of Alberta
Edmonton, AB T6G 2M7

cut along line

CHANGE OF PERSONAL INFORMATION

Student ID No.

Surname on Record at U. of A.

Other Names in Full

Change Name to:

From

Change Mailing Address to:

Apartment Number/Building

Street or Box Number

From This Date Forward:

City or Town and Province

Yr Mo Day

Country and Postal Code if not Canada

Postal Code

Phone Number

Signature: _____

Date: _____

272 Parking for Spring/Summer Terms

Parking is available for all Intersession students who wish to park on campus. A valid permit must be obtained and affixed to the vehicle.

Spring/Summer Term parking permits are available on a first come, first serve basis in the following zones:

L, M, T, X, U, and Windsor Car Park
Space is limited in some of these zones

The fee required is:-

$27.50 for 3 weeks (X zone only)
$33.00 for 3 weeks (zones, L,M,U,T, and Windsor Car Park)
$49.50 for 6 weeks (X zone only)
$58.50 for 6 weeks (zones, L,M,U,T, and Windsor Car Park)

If you wish to obtain a Intersession permit, please complete the attached application form and return it to:-

University of Alberta
Parking Services
Room 203, Education Car Park
Edmonton, Alberta
T6G 2R5

A permit will be issued upon receipt of the required fee for the period requested. To aviod delay, please ensure that payment is enclosed and that the enclosed application is fully completed, including ***Postal Code, Licence Plate Number,*** and ***Location Desired.***

You are advised to familiarize yourself with the University of Alberta Traffic and Parking Regulations, copies of which are available at Parking Services. Tickets are issued for violation of these regulations and vehicles may be towed away under certain circumstances.

Motorcycles are restricted to signed motorcycle zones only. No charge.

Office Hours:
8:00 a.m. to 11:30 a.m.
12:30 to 3:30 p.m.
(Statutory holidays excepted)

Location:
Education car Park
Southeast Corner

Telephone:
492-3811
FAX 492-8062

University of Alberta

Parking Permit Application
Student

Please Print

VEHICLE INFORMATION

LICENCE PROVINCE (STATE) | LICENCE PLATE NUMBER

OPERATOR INFORMATION

STUDENT I.D. NO | FACULTY

SURNAME | FIRST NAME | INITIALS | LOCAL TELEPHONE

STREET ADDRESS (RESIDENCE) | CITY | PROVINCE (STATE) | POSTAL CODE

REGISTERED OWNER INFORMATION

☐ SAME AS ABOVE (PLEASE CHECK) OR:

STAFF STUDENT OTHER | SOCIAL INSURANCE NO. | STUDENT I.D. NO

SURNAME OR COMPANY NAME | FIRST NAME | INITIALS

STREET ADDRESS | CITY | PROVINCE (STATE) | POSTAL CODE

PARKING PERMIT REQUESTED

TYPE OF PERMIT

☐ WINTER SESSION ☐ SUMMER TERM ☐ SPRING TERM ☐ EVENING PERMIT

☐ POOL (ALL POOL APPLICATIONS MUST BE SUBMITTED TOGETHER BUT ON INDIVIDUAL FORMS)

☐ TEMPORARY PERMIT

FROM START DATE TO EXPIRY DATE

TYPE OF SPACE

☐ RESERVED ZONE WITH PLUG

☐ RESERVED ZONE WITHOUT PLUG

☐ PERIPHERAL ZONE

PARKING LOCATION REQUESTED

CHOICE 1 | CHOICE 2 | CHOICE 3

PAYMENT METHOD

☐ CASH

☐ CHEQUE

ADDITIONAL INFORMATION:

PARKING OFFICE USE ONLY:

DATE APPLICATION RECEIVED | DATE LETTER MAILED

PERMIT STATUS

PERMIT NO | STALL NO | PERMIT | SPACE | ASSGN ZONE

ZONE PREF | PR | POOL REF | PAY | VALUE

ACTIVITY | START D M Y | END D M Y

PERMIT NO | STALL NO | PERMIT | SPACE | ASSGN ZONE

ZONE PREF | PR | POOL REF | PAY | VALUE

ACTIVITY | START D M Y | END D M Y

UNDERSTANDING AND ACKNOWLEDGEMENT

The applicant hereby certifies the information provided herein is true and correct and further agrees to be bound by and comply with the University of Alberta Traffic and Parking Regulations and other policies as may be in effect or amended from time to time. In the event that the information provided herein is found incorrect or the application breaches any of the said rules and regulations, then in such case, all parking rights of the applicant shall cease and without restricting the foregoing, the university shall be at liberty to bring any proceeding against the applicant pursuant to the provision of the Code of Student Behavior and Student Disciplinary Procedures.

Signed at the City of Edmonton, in the Province of Alberta,

this _____ day of _____ A.D. 19 ____

_____

Signature

273 Course Descriptions

GENERAL INFORMATION

The courses listed below are planned for Intersession 1991. Please consult the Timetable for information concerning scheduling of specific courses.

Not all courses are offered in both terms of the Intersession. Students should ensure that their registration applies to the correct term.

Each course is designated by its computer abbreviation and a number. Following the title of the course is the symbol "★" standing for "course weight", and a number indicating the weight of the course as used in computing grade-point averages.

Courses numbered 100 to 199 are introductory, usually equivalent to high school courses. Those numbered 200 to 299 are junior courses, normally taken by first-year undergraduates. Those numbered 300 to 499 are senior courses, normally taken after the first year. Courses numbered 500 and up are normally restricted to senior and graduate students.

The course weight and the instructional time for a course appearing in this calendar is equal to that for the same course offered during the regular Winter Session.

The University reserves the right to impose registration quotas on, or to withdraw, any of the courses listed below.

The appearance of a course in the following list does not constitute any guarantee that the course will be offered.

ACCOUNTING

ACCTG 311 Introductory Accounting ★3 Postulates, principles, the accounting cycle, capital and income measurement, financial statement preparation and analysis; emphasis on reporting to shareholders, creditors and other external decision-makers. Prerequisite: ECON 101, 102.

ACCTG 322 Managerial Information and Control Systems ★3 Corporate goals, planning and control concepts, cost accumulation for pricing purposes, and product costing. Prerequisite: ACCTG 311.

ACCTG 424 Intermediate Managerial Control Concepts ★3 Accounting for managerial decision-making. Emphasis on cost and revenue accumulation for control and pricing problems as well as on product costing. Prerequisite: ACCTG 322, MGTSC 352, ORG T 301, ORG T 311.■

ADMINISTRATION SCOLAIRE ET MEDIA/EDUCATIONAL ADMINISTRATION AND MEDIA

ADMSC 401 Le rôle du professeur ★3 Etude de l'organisation de l'éducation publique en Alberta et de certains problèmes critiques en gestion scolaire. Ces problèmes peuvent varier selon le niveau et l'intérêt des étudiants. Antérieurement ADMSC 461.■

AGRICULTURAL ECONOMICS DEPARTMENT OF RURAL ECONOMY

AG EC 400 Special Topics: Advanced Farm Management ★3 Individual study. Study of a selected topic or problem requiring both written and oral reports. Prerequisite: Consent of the Department Chair.

AG EC 484 Agricultural Marketing Economics ★3 Structure and performance of agricultural markets. Applied agricultural market and price issues. Prerequisite: AG EC 384.■

ANDRAGOGIE/ANDRAGOGY

ANDR 510 Formation à la méthodologie de l'andragogie ★3 Les grandes tendances de l'andragogie. Les problèmes de communication interindividuelle et de groupe. La communication pédagogique en tant que processus spécifique. Les attitudes du formateur et leurs effets sur les apprenants. Les grandes familles de méthodes pédagogiques: de la directivité à la créativité.

ANDR 520 Formation expérientielle à la dynamique de groupe ★3 Les concepts de groupe, d'organisation et d'institution. La dynamique de groupe: définition, ses différentes étapes, son utilisation dans le groupe de tâche et d'apprentissage. Prérequis: ANDR 510 ou l'accord du Doyen.■

ANTHROPOLOGY

ANTHR 101 Introductory Anthropology ★3 A general introduction to Anthropology through the study of central concepts and key issues. These include human evolution, the appearance of culture, social organization, cultural theory, symbolic systems, culture change. Note: Not open to students with credit in ANTHR 202 or 301.

ANTHR 110 Gender, Age and Culture ★3 An anthropological review and comparison of cultures in terms of social positions based on differences in sex and age.

ANTHR 150 Race and Racism in the Modern World ★3 The challenge of racism in modern societies and the response of anthropology, including the history of the "race" concept in explaining human variation and the uses of racialist notions in discussions of individual and social differences.

ANTHR 301 Topics and Issues in Anthropology ★3 An introduction to Anthropology through the study of selected topics such as human evolution, cultural adaptation, social structure, the individual and society, symbol and meaning, exchange and production, culture change. Note: Not open to first-year students or those with credit in ANTHR 101 or 202.

ANTHR 306 Introduction to Archaeology ★3 Introduction to the nature, purposes, theory and methods of anthropological archaeology. Emphasis is placed upon the principles of reconstruction of

past societies from archaeological evidence and the explanation of cultural evolution. Prerequisite: ANTHR 101 or 301.

ANTHR 307 Introduction to Social and Cultural Anthropology ★3 The comparative study of human society and culture, particularly non-Western communities, with special attention to the family, social structure, economics and political institutions, and religion; processes of change. Prerequisite: ANTHR 101 or 301.

ANTHR 309 Introduction to Physical Anthropology ★3 Survey of theory and basic data in human evolution and human variation. Topics include primatology, osteology, hominoid paleontology, variation in modern populations. Prerequisite: ANTHR 101 or 301.

ANTHR 355 Contemporary Canadian Native Peoples ★3 Anthropological perspective on some current situations of native peoples in Canada.

ANTHR 383 Peoples and Cultures of Western Africa ★3 The cultures of sub-Saharan West Africa and the Zaire basin.

ANTHR 392 Primate Behavior ★3 Emphasis on field studies of non-human primates. Topics to include: social organization, behavior and ecology, territorial behavior communication, reproductive behavior, and other relevant topics.

ANTHR 393 Health and Healing ★3 A cross-cultural study through time of the beliefs and social activities associated with health, illness and healing. Prerequisite: ANTHR 101 or 301 or consent of the instructor.

ANTHR 396 Archaeological Field Training ★6 Instruction in all practical aspects of archaeological field techniques, including excavation, survey, recording, photography, and conservation. Held at a selected location in Alberta during both Spring and Summer Sessions. Prerequisite: ANTHR 306 or equivalent, and consent of the Department.■

ART AND DESIGN

ART 131 Visual Fundamentals ★6 A studio based introduction to the exploration and production, in two and three dimensions, of visually expressed information. Note: Not open to students with credit in ART 132.

ART 312 Painting ★6 Introduction to the principles and techniques of painting. Prerequisite: ART 131, or 232, and consent of the Department.

ART 313 Painting ★6 Continuing introduction to the principles and techniques of painting. Prerequisite or corequisite: ART 312 and consent of the Department.

ART 339 Special Projects in Studio Disciplines: Drawing ★6 BFA students may use ART 339 in lieu of ART 240/340 upon consent of the Department. Prerequisite: ART 131 and consent of the Department.

ART 362 Sculpture ★6 Foundation studies in sculpture. Prerequisite: ART 131, or 132, and consent of the Department.

ART 363 Sculpture ★6 Further foundation studies in sculpture. Prerequisite or corequisite: ART 362 and consent of the Department.

ART 413 Painting ★6 Directed individual study for students wishing to specialize further in painting. Students will be encouraged to explore both contemporary and traditional mediums. Prerequisite or corequisite: Normally, ART 412 and consent of the Department.

ART 414 Projects in Painting ★6 A specialized course for students concentrating in painting. Prerequisite: Consent of the Department.

ART 439 Special Projects in Studio Disciplines: Drawing ★6 BFA students may use ART 439 in lieu of ART 440 upon consent of the Department. Prerequisite: ART 240/340 or ART 339 and consent of the Department.

ART 462 Sculpture ★6 Intermediate studies in sculpture. Prerequisite: ART 362 and/or consent of the Department.

ART 463 Sculpture ★6 Further intermediate studies in sculpture. Prerequisite or corequisite: ART 462 and/or consent of the Department.

ART 464 Sculpture ★6 Additional intermediate studies in sculpture. Prerequisite or corequisite: ART 463 and/or consent of the Department.

ART 512 Painting ★6 Advanced study in the principles and techniques of painting. Prerequisite: Normally ART 412 and consent of the Department.

ART 513 Painting ★6 Individual directed study for students wishing to specialize further in painting at an advanced level. Pre-requisite or corequisite: Normally, ART 512 and consent of the Department.

ART 514 Projects in Painting ★6 A specialized course for advanced students concentrating in painting. Prerequisite: Normally, consent of the Department.

ART 539 Special Projects in Studio Disciplines: Drawing ★6 Normally not offered during the course of the Winter Session. BFA students may use ART 539 in lieu of ART 540 upon consent of the Department. Prerequisite: ART 439 or ART 440 and consent of the Department.

ART 562 Sculpture ★6 Advance studies in sculpture. Prerequisite: ART 462 and/ or consent of Department.

ART 563 Sculpture ★6 Further advanced studies in sculpture. Prerequisite or corequisite: ART 562 and/or consent of the Department.

ART 564 Sculpture ★6 Additional advanced studies in sculpture. Prerequisite or corequisite: ART 563 and/or consent of the Department.

ART H 101 Introduction to the History of Art I ★3 Introduction to Western Art and Design to the end of the fourteenth century by analysis of selected works and movements.
ART H 102 Introduction to the History of Art II ★3 Introduction to Western Art and Design from the fifteenth century to the present by analysis of selected works and movements.
ART H 231 Survey of Renaissance Art I ★3 The history of the visual arts of the fifteenth century in Northern Europe.
ART H 232 Survey of Renaissance Art II ★3 The history of the visual arts of the fifteenth century in Italy.
ART H 281 Survey of Twentieth-Century Art I ★3 The history of the visual arts up to World War II in Europe and North America.
ART H 282 Survey of Twentieth-Century Art II ★3 The history of the visual arts of the twentieth century from World War II to the present, in Europe and North America.■

BIOCHEMISTRY

BIOCH 301 General Biochemistry ★6 Structure and chemistry of the cell; the chemistry and metabolism of carbohydrates, lipids, proteins and nucleic acids; the molecular biology of enzymes and genes as related to the functioning of the living cell. Prerequisite: CHEM 100 or 104 or 204; and CHEM 160 or 260. Those for whom this course is an option require consent of the Department.■

BIOLOGY

BIOL 197 Heredity ★3 The cellular and molecular basis of the transmission of hereditary characteristics: Mendelian inheritance and its cytological basis; microbial genetics; cytoplasmic inheritance; linkage and genetic mapping; DNA as genetic material; gene action; the genetic code. Note: Students cannot receive credit for both BIOL 197 and GENET 351. Those taking BIOL 197 should take GENET 275 for the equivalent of GENET 351. Prerequisite: Biology 30.■

BOTANY

BOT 199 Plant Biology ★3 An introduction to the biology of plants emphasizing the relationship between form and function and the potential of the science. The following topics are covered: the cellular structure of plants; plant tissues and their functions; the classification of plants and the major groups, both prokaryotic and eukaryotic; the relevance of members of the major groups to human life; plant metabolism including water, nutrient and energy relations; growth and development of plants and their reproductive biology. Prerequisite: Biology 30 recommended. May not be taken for credit if credit has been obtained in BIOL 296 and BIOL 299, or in INT D 230.
BOT 304 Field Botany ★3 This course is designed to acquaint non-botany as well as botany students with the collecting, identifying and curating of the major groups of plants. Topics include selected taxonomic and phytosociological concepts, field methods, keys and identifications and herbarium methods. Effective handling of both specimens and field data for scientific purposes will be stressed. Plant collections prepared to acceptable herbarium standards will be required of those taking this course. There will be a transportation charge of $5.00 or less per person. Prerequisite: BIOL 100 or BOT 199.
BOT 383 Biology of Economic Plants ★3 Lectures will deal with the biology and utilization of economically important vascular and non-vascular plants emphasizing relevant morphology, physiology, distribution and history of use. Prerequisite: BOT 199 and a 200-level biological or earth sciences course.■

BUSINESS

BUS 379 Business Policy ★3 Case studies in business policy. Prerequisite: FIN 301, IND R 301, MGTSC 352, MARK 301, and ORG T 311.■

CANADIAN STUDIES

CANST 302 Canada's North: The Human Dimension ★3 An interdisciplinary social science survey of northern Canada with reference to patterns of relationships both in northern Canada and between the North and the rest of Canada.■

CHEMISTRY

CHEM 100 Introductory University Chemistry ★6 Bonding and structure; chemical and phase equilibria; solution chemistry; thermochemistry; electrochemistry and chemical kinetics, with applications to inorganic chemistry. Prerequisite: Chemistry 30, or equivalent.
CHEM 103 Introductory University Chemistry I ★3 Chemical energy, enthalpy, Hess' Law and applications to bond energies and stability of compounds. Ionic and covalent compounds, principles of chemical equilibrium with applications to acid-base chemistry. Chemistry of hydrogen and the oxygen group. Prerequisite: Chemistry 30 or equivalent.
CHEM 105 Introductory University Chemistry II ★3 Oxidation and reduction, electrochemical cells and the Nernst Equation, free energy and equilibrium. Chemistry of the halogens and the transition metals. Chemical kinetics. Prerequisite: CHEM 103.
CHEM 160 Organic Chemistry ★6 The study of functional groups found in the main classes of organic compounds and their molecular conformation and stereochemistry in such a way that the chemistry of some molecules important to biology (eg., amino acids, proteins, medicinals, pesticides, fats, sugars, carbohydrates, nucleic acids) as well as some molecules found in everyday life (soaps, detergents, fibers, perfumes, polymers, etc.) can be discussed. Note: Students with credit in CHEM

100 or 104 normally will proceed to CHEM 260. Such students may enroll in CHEM 160 only if written consent of the Department is obtained. Prerequisite: Chemistry 30 or equivalent.

CHEM 260 Organic Chemistry ★6 The study of molecular structure and reactivity of organic compounds of both biological and industrial interest. Special attention is given to the chemistry of polymers, fats, peptides and carbohydrates. Methods of structure determination are discussed. Note: Students who have obtained credit for CHEM 160, cannot take CHEM 260 for credit. Prerequisite: CHEM 100 or 104 or 204.■

CHINESE
Department of East Asian Languages and Literatures

CHINA 350 The Chinese Language in its Cultural Setting I ★6 Oral immersion course to be studied abroad. Designed for improvement of oral/aural skills at senior elementary level. Prerequisite: CHINA 100 and 200 or consent of Department.

CHINA 450 The Chinese Language in its Cultural Setting II ★6 Oral immersion course to be studied abroad. Designed for improvement of oral/aural skills at senior intermediate level. Prerequisite: CHINA 302 and 306, or consent of the Department.■

CHRISTIAN THEOLOGY

CHRTC 266 New Testament Themes ★3 A study of the meanings attributed to Jesus Christ in the New Testament. The problem of the formation of the Gospels will be examined and particular attention given to the images of Jesus Christ presented by the principal authors of the New Testament. Efforts to relate the Biblical Christ to contemporary culture will also be studied.

CHRTC 292 Spirituality for today's Christians ★3 Theological understanding of the role of prayer, leisure and work in developing a Christian lifestyle.

CHRTC 349 Christianity and Social Justice in Canada ★3 Examines particular problems in Canada and in the world and the alternative solutions offered by contemporary thinkers from a Christian point of view. This course includes Christian social thought, Christian pacifism, theology of politics.

CHRTC 351 The Christian Meaning of Sex and Marriage ★3 The sexual revolution and its relevance for sexual ethics; premarital sex; marriage breakdown and divorce; sex as a human reality; Christian meaning of marriage.

CHRTC 352 Medical-Moral Problems ★3 Christian reasons for valuing life; examination from a Christian perspective of euthanasia, abortion, genetic research, sterilization, reproductive technologies, and medical experimentation; rights of patients.

CHRTC 411 Topics in Christian Unity ★3 An examination of the Protestant-Catholic-Orthodox dialogues in the twentieth century and the efforts to recover the unity-within-diversity of Christianity. Prerequisite: Consent of the College.■

CLOTHING AND TEXTILES

CL TX 430 Selected Topics in Textile Design: Peruvian Textiles ★3

CL TX 433 Selected Topics in Textile and Apparel Merchandising ★3

CL TX 517 Selected Topics Clothing Function and Comfort ★3 Topics of current interest in clothing, textiles and design. Prerequisite: Senior courses(s) in respective area(s).■

CLASSICS

CLASS 102 Greek and Roman Mythology ★3 A survey of classical mythology with readings in translation from various ancient authors as well as from modern scholarly works.

CLASS 110 Early World History I ★3 World history from the beginning of written records down to the end of the 6th century A.D. The course covers the ancient history of the Mediterranean world, with particular emphasis on Egypt, Greece and Rome and compares developments in civilization in these areas with those in Persia, India, China and Japan. Note: Students choosing CLASS 110 for partial fulfillment of the Humanities Group A requirement must also take HIST 110.

CLASS 141 Ancient Science and Technology ★3 A survey of ancient science and technology in the Middle Eastern, Greek, and Roman civilizations.

CLASS 201 Literature of Greece and Rome ★3 An introductory survey in English translation of Greek and Latin literature in its social, artistic, and cultural background. A limited number of major works, representing the most important genres, will be studied. May not be taken concurrently with or subsequent to CLASS 359/360.

CLASS 250 The Greek World ★3 Greek life and society illustrated by archaeological discoveries; the Bronze Age, the city, temples, Athens, Sparta, Greek art and architecture, trade, and warfare. Slides, films, and other materials.

CLASS 251 The Roman World ★3 A study of Roman society illustrated by archaeological discoveries; city life, housing, town planning, games, trade, shipping, and the army. Slides, films, coins, other materials.

CLASS 367 Archaic and Classical Greek Art ★3 The origin and development of Greek Art and Architecture and its relation to, and reflection of, the cultural and political history of the times.

CLASS 368 Hellenistic and Roman Art ★3 The development and role of Art and Architecture in the Hellenistic kingdoms and the Roman Republic; the evolution of Roman Imperial Art

CLASS 475 Practical Methods in Classical Archaeology ★3 The techniques of excavation and recording in Classical Archaeology. Prerequisite: Consent of the Department. Note: Offered only for field work in the archaeology of the Greek and Roman world and restricted to those participating in an excavation sponsored by the Department.

CLASS 476 Advanced Field Techniques in Classical Archaeology ★3 Advanced field application of Classical archaeological theory. Prerequisite: CLASS 475 or equivalent and consent of the Department. Note: Offered only for field work in the archaeology of the Greek and Roman world and restricted to those participating in an excavation sponsored by the Department.
CLASS 602 Studies in Classical Archaeology II ★3 Prerequisite: Consent of the Department.■

COMPUTING SCIENCE

Note:
(1) Students enrolled in Honors and Specialization in computing science, and in other Faculty of Science Honors and Specialization programs will be given preference in registering for computing science courses required in these four-year programs.
(2) Credit for introductory computing science courses: Credit will be granted for only one of CMPUT 114, 157, 162, 251, 300 and ENCMP 100. Credit will be granted for only one of CMPUT 115 and 169
(3) Students taking CMPUT 169 who want to pursue more advanced courses in computing science must take CMPUT 172 before entering second year computing science courses.
(4) The following is a list of courses which, for the most part, are open to any student who satisfies the prerequisite and corequisite requirements. Any special restrictions are specified at the course level.

CMPUT 114 Introduction to Computing Science ★3 Using a computer system; algorithms; introduction to programming in a procedural language such as PASCAL; concepts of programming style and organization; solution of elementary numerical and non-numerical problems. Corequisite: MATH 114 or 117, and MATH 120, or equivalents. See Note 2.

CMPUT 115 Programming with Data Structures ★3 Review of programming principles; review categories of data types; study strings, linear and two-dimensional data structures (lists, stacks, queues, tables and trees); comparison of linked and continguous representation of data structures; methods of searching, sorting, hashing and recursion. Prerequisite: CMPUT 114, MATH 114 or 117, MATH 120, or equivalents. Corequisite: MATH 115 or 118, or equivalents. See Note 2.

CMPUT 157 Introduction to Computing for Business Applications ★3 Capabilities and limitations of computing systems; manipulation and storage of data in files; introduction to programming in a high-level language; survey of business applications. Formerly MGTSC 357. Open only to students in the Faculty of Business. See Note 2.

CMPUT 161 Introduction to Computation ★3 Using a personal computer. Applications of computers: data bases, spreadsheets, word-processing, graphics, communications, etc. Brief introduction to programming. Computers in society. Only open to students who do not have credit in CMPUT 114, 157, 251, 300, or ENCMP 100. Not available to Science students.

CMPUT 169 Structured Programming and Data Structures ★3 Syntax of a high-level structured language such as PASCAL, representation and manipulation of data structures by a high level langauage; recursion; representation of integers, reals; binary arithmetic; numerical error; data structures: strings, arrays, linked lists, queues, trees; applications of data structures. Prerequisite: ENCMP 100, CMPUT 251 or equivalent; MATH 113, MATH 120, or equivalents. Corequisite: MATH 115 or equivalent. See Notes 2 and 3. **Note: This course is designed to accommodate students who have taken a rigorous course in FORTRAN programming, and who wish to pursue more advanced courses in Computing Science.**

CMPUT 172 Formal Systems and Logic in Computing Science ★3 An introduction to the tools of set theory, logic and induction, and their use in the practice of reasoning about algorithms and programs. Basic set theory. The notion of a function. Counting. Propositional and predicate logic and their proof system. Inductive definitions and proofs by induction. Program specification and correctness. Prerequisite: CMPUT 114 or equivalent. Corequisite: CMPUT 115 or 169.

CMPUT 225 Programming Languages I ★3 A study of programming languages with regard to structural organization, syntactical structures, control structures, data structures and name structures. An investigation of procedural languages like Modula-2 and Ada which support modularity and data obstruction. An introduction to non-procedural languages including: Lisp, Prolog and Smaltalk. Prerequisite: CMPUT 280.

CMPUT 251 Introduction to Programming for Scientific Applications ★3 Basic programming techniques using a high level language; representation and manipulation on of numeric and non-numeric data; survey of computing systems, history and applications. Prerequisite: MATH 113 or equivalent.

CMPUT 291 Introduction to File Management ★3 Basic concepts in computer data organization and information processing; hardware devices, physical organization, and access methods for file storage; file I/O; introduction to database systems. Prerequisite: CMPUT 115 or 169, CMPUT 172. 204, MATH 223 or 382.

CMPUT 340 Introduction to Numerical Methods ★3 Introduction to computer arithmetic and errors. The study of computational methods for solving problems in linear algebra, non-linear equations, interpolation, and approximation, integration and ordinary differential equations. The aim is to teach the student how to use mathernatical sub- routine packages currently available in computer libraries. Prerequsite: CMPUT 172, MATH 120 and 214. Credit cannot be obtained for more than one of CMPUT 319, 340, 358 or MATH 280 or 486.■

CURRICULUM ET MÉTHODOLOGIE/EDUCATION CURRICULUM AND INSTRUCTION

CU ME 339 Enseignement de la musique au niveau élémentaire I ★3 Prérequis: MUSIQ 203 ou l'équivalent, ou MUSIQ 150 et 151 ou l'équivalent.

CU ME 347 Introduction à l'ordinateur en éducation ★3 L'ordinateur individuel: définition des principales composantes et fonctionnement. Mode direct et mode différé d'utilisation d'un ordinateur. L'enseignement assisté, séquentiel et ramifié. La répétition d'exercices. L'acquisition de concepts. La simulation. Les jeux. Le traitement de textes. Les langages d'auteur. Initiation aux principales applications pédagogiques de l'ordinateur et réflexions sur le rôle de l'ordinateur en pédagogie.

CU ME 350 Enseignement du français dans les classes d'immersion tardive au niveau secondaire ★3 Principes d'acquisition et d'apprentissage d'une langue seconde. Etude du phénomène d'immersion comme moyen d'apprendre et d'enseigner une deuxième langue. Etude des ressources et des pratiques pédagogiques pour l'enseignement du français en situation d'immersion au niveau secondaire.

CU ME 496 L'enseignement religieux et l'éducation morale ★3

CU ME 500 Théorie générale de curriculum: contexte écoles françaises en milieu minoritaire et écoles d'immersion ★3 Analyse approfondie des définitions et théories du curriculum, de ses composantes et de ses bases idéologiques et de leurs applications dans les écoles françaises en milieu minoritaire et en immersion. Limité aux détenteurs d'un baccalauréat en éducation ou l'équivalent.

CU ME 501 Développement, implantation et évaluation des programmes en immersion et dans les écoles françaises en milieu minoritaire ★3 Cours de curriculum à orientation pratique. Analyse et évaluation des composantes, des valeurs et des idéologies à la base des programmes d'étude, du matériel d'appui et des programmes socio-culturels utilisés en situation minoritaire et immersion. Le développement, l'évaluation et l'implantation de programmes pour les écoles françaises et pour les écoles d'immersion. Prérequis ou corequis: CU ME 500. Limité aux détenteurs d'un baccalauréat en éducation ou l'équivalent.■

DANCE

DANCE 255 Social Dance ★1.5 Personal skill acquisition in individual and partner situations in the foxtrot, waltz, swing, rumba and cha cha cha.

DANCE 260 Jazz Dance ★1.5 Personal skill acquisition in body awareness and placement, locomotion and choreographed jazz dance.

DANCE 340 Modern Dance ★3 Introduction to the study of creative dance techniques, improvisation, composition, and performance through theory and practical experience.

DANCE 355 Social Dance ★3 Theory and practice of social (ballroom) dance forms. (For BPE; BEd, Physical Education majors; Recreation Administration students only.) Prerequisite: DANCE 255 or consent of the Department.■

DENTISTRY

DENT 521 Orthodontic Pre-clinical Lectures ★3 Spring/Summer program of 10 weeks. A continuation of DENT 520.

DENT 524 Orthodontic Seminar ★3 Spring/Summer program of 10 weeks. A continuation of DENT 523. Includes advanced treatment planning and different treatment philosophies.

DENT 528 Surgical/FunctionalAppliances ★1 Spring/Summer program of 10 weeks. A continuation of DENT 527 which presents a more detailed knowledge base to allow comprehensive treatment planning.

DENT 529 Adult Orthodontics ★1 Spring/Summer program of 10 weeks. Pre-clinical lecture/seminar series to introduce the graduate student to adult orthodontics.

DENT 531 Orthodontic Clinic ★5 Spring/Summer program of 10 weeks. A continuation of DENT 530 during which active patients are transferred to junior students.

DENT 538 Surgical/Functional Appliances ★1 Spring/Summer program of 10 weeks. Clinical compliment to DENT 537. Transfer cases from senior to junior students. Alternate clinics.

DENT 539 Adult Orthodontics ★1 Spring/Summer program of 10 weeks. Clinical component associated with DENT 529. Students will assist with, and later assume treatment responsibility during this transfer quarter.

DENT 623 Adult Orthodontics ★1 Spring/Summer program of 10 weeks. Conclusion of the adult ortho theory seminar. Current pertinent literature is reviewed and critiqued.

DENT 631 Orthodontic Clinic ★5 Spring/Summer program of 10 weeks. Continuation of DENT 630. The senior students gradually transfer caseloads to junior students.

DENT 633 Adult Orthodontics ★1 Spring/Summer program of 10 weeks. Continuation of DENT 623. Transfer cases from senior to junior students.

DENT 635 Surgical/FunctionalAppliances ★1 Spring/Summer program of 10 weeks. Cases transferred from senior to junior students.

DENT 699 Research Project ★6 Credit equivalent to a two-term course. The work undertaken can include critical evaluation of a designated area of dentistry which may or may not include original research. The work completed will be presented in the form of a report to the dental department offering the program. No more than one project can be undertaken by any student in a program leading to a graduate degree in oral biology or dentistry. Prerequisite: Consent of the department offering the graduate degree■

DRAMA

DRAMA 102 Play Analysis ★3 Understanding of Drama through critical analysis of plays and its application to creative solutions in their production.

DRAMA 149 Introduction to Dramatic Process ★3 Speech and movement improvisation with an emphasis on imaginative development; introduction to the process of acting and to dramatic form. Note: Designed for students with little or no previous experience in Drama. Not normally to be taken by BA Drama majors.

DRAMA 247 Introduction to and Development of Oral Communication ★3 Exploration of basic techniques of oral communication and oral interpretation drawing from various forms of literature. Prerequisite: Consent of the Department. Not normally to be taken by BA Drama majors. Note: Not open to students with credit in DRAMA 243, 245, 341 and 342.

DRAMA 304 History of the Theatre ★6 The development of the styles and crafts of the mise en scene, and of the relationship between the playing space and the audience, from period to period in chronological sequence, from the Greeks to the end of the nineteenth century.

DRAMA 353 Scene Study I ★3 The study of acting, including the analysis and enactment of scripted scenes, and characterization. Prerequisite: DRAMA 350 and/or consent of the Department.

DRAMA 379 Introduction to Stagecraft and Design ★3 Introductory lectures in production techniques, construction, mechanics, lighting and design. Note: Not to be taken by students with credit in DRAMA 273 or 376. Formerly DRAMA 273 and 376.

DRAMA 492 Running Crew Projects ★3 Production organization: experience in preparing and running of a play in performance. Prerequisite: DRAMA 378 and/or consent of the Department.■

ECONOMICS

ECON 101 Introduction to Microeconomics ★3 Economic analysis, problems, and policies with emphasis on the Canadian economy; the roles of consumers and firms in competitive and monopolistic markets; foreign ownership in the Canadian economy: the distribution of income, inequality, and poverty; the use of the environment; government economic policies. Prerequisite: Mathematics 30, or consent of the Department.

ECON 102 Introduction to Macroeconomics ★3 Economic analysis, problems, and policies with emphasis on the Canadian economy; national income and monetary theory; problems of unemployment and inflation; government monetary and fiscal policies; international trade theory, problems, and government policies. Prerequisite: Mathematics 30 or consent of the Department.

ECON 311 Chinese Economic Development ★3 A survey of the characteristics of and recent developments in the Chinese economy emphasizing the nature and consequences of China's economic reforms and Canada's economic relations with China. Prerequisite: ECON 101/102, or ECON 204.

ECON 318 An Introduction to Canadian Economic Development I ★3 Analysis of Canadian economic development before World War I with particular emphasis on Confederation, the National Policy and western settlement. Prerequisite: ECON 101/102 or consent of the Department. Note: A student may not receive credit in both ECON 316 and 318.

ECON 323 International Economics ★3 A survey of the principles of international economics and the applications to economic policy. The topics are foreign trade, foreign investment, and the balance of payments. Prerequisite: ECON 101/102 or consent of the Department.

ECON 341 Money and Banking ★3 Analysis of money and credit in the exchange process; financial intermediaries; commercial banking; central banking. The primary focus of this course will be on the supply of money and elementary issues of monetary control. Prerequisite: ECON 101/102 or consent of the Department.

ECON 373 Industrial Organization ★3 A survey of the behavior and performance of firms in different market structures and discussion of public policy toward the different structures. Prerequisite: ECON 101/102 or consent of the Department. Not open to students with credit in MANEC 312.

ECON 381 Intermediate Microeconomic Theory ★3 The theory of consumer behaviour; theory of production and cost; price and output determination under competition, monopoly and other market structures. Prerequisite: ECON 101/102 or consent of the Department. Not open to students with credit in ECON 383 or MANEC 301 or MANEC 323.

ECON 382 Intermediate Macroeconomic Theory ★3 National income concepts and income determination; theories of aggregate consumption, investment and employment behavior; monetary and fiscal policy. Prerequisite: ECON 101/102 or consent of the Department. Not open to students with credit in MANEC 333 or MANEC 402.

ECON 399 Introductory Econometrics ★3 An elementary treatment of the major topics in econometrics with emphasis on applied regression methods. Prerequisite: ECON

ECON 421 International Trade ★3 Nature and relevance of international trade; early trade doctrines; the theory of comparative advantage, classical and modern approaches and empirical evidence for them; new approaches to the pure theory of international trade; economic growth and international trade; market imperfections and trade; commercial policy; economic integration and the gains from trade. Prerequisite: ECON 381.

ECON 481 Advanced Microeconomic Theory ★3 Theory of distribution; general equilibrium analysis; welfare economics. Prerequisite: ECON 381 and 382 and 386 or equivalent or consent of the Department.

ECON 482 Advanced Macroeconomic Theory ★3 An advanced course in aggregate economic behavior dealing with inflation, employment and stabilization policy analysis. Other topics will be selected from the areas of business cycle theory, micro-foundations of macro models, government budget constraints, expectations formation and open economy issues. Prerequisite: ECON 381 and 382 and 386 or equivalent or consent of the Department. Note: Familiarity with linear algebra as well as calculus is highly desirable.■

EDUCATION - ELEMENTARY

ED EL 405 The Reading Process: Theory and Observation ★3 Prerequisite: One of ED EL 205, 241, 305, 341; and successful completion of practicum requirements or teaching experience; or consent of the Department.

ED EL 406 Reading in Early Childhood Education ★3 Prerequisite: One of ED EL 205, 241, 305, 341; and successful completion of practicum requirements or teaching experience; or consent of the Department.

ED EL 407 Reading in Upper Elementary School ★3 Prerequisite: One of ED EL 205, 241, 305, 341; and successful completion of practicum requirements or teaching experience; or consent of the Department.

ED EL 411 Language Across the Curriculum in the Elementary School ★3 Prerequisite: One of ED EL 205, 241, 341 or equivalent; and successful completion of practicum requirements or teaching experience; or consent of the Department.

ED EL 420 Curriculum and Instruction in Elementary School Physical Education ★3 Prerequisite: Element VII and ED EL 240 or 340; or ED EL 220 or consent of the Department.

ED EL 450 Introduction to the Teaching of English as a Second Language ★3 Prerequisite: Successful completion of practicum requirements or teaching experience, or consent of the Department. Prerequisite or corequisite: An approved introductory course in Linguistics.

ED EL 451 Methods and Programs in the Teaching of English as a Second Language ★3 Prerequisite: ED EL 450 and successful completion of practicum requirements; or consent of the Department. This course will include a field placement in an off-campus ESL classroom one morning per week.

ED EL 457 Curriculum and Instruction in Early Childhood Education ★6 Priority given to students enroled in Diploma in Early Childhood Education or students in former BEd with ECE specialization. Prerequisite: At least one year of teaching experience and consent of the Department.

ED EL 496 Sem 10 Group Projects in Elementary Education II: Canadian Literature for Young People in Schools and Librarie ★3 Prerequisite: Consent of the Department.

ED EL 496 Sem 11 Group Projects in Elementary Education II: Language Arts Through Drama ★3 Prerequisite: Consent of the Department.

ED EL 496 Sem 12 Group Projects in Elementary Education II: Producing Art and Responding to Art in the Elementary Schools ★3 Prerequisite: Consent of the Department.

ED EL 496 Sem 60 Group Projects in Elementary Education II: Computers in Language Arts ★3 Prerequisite: Consent of the Department

ED EL 505 Theories of Language Processing ★3 Prerequisite: One-half course equivalent in reading education and one-half course equivalent in language education, or consent of the Department.

ED EL 510 Curriculum and Instruction in Children's Literature for Elementary Schools ★3 Prerequisite: One-half course equivalent in each of language and reading education or consent of the Department.

ED EL 560 Curriculum Development ★3 Curriculum theory and research with particular reference to determinants of curriculum, curriculum development, implementation and evaluation.

ED EL 567 Introduction to Educational Research ★3 Prerequisite: Consent of the Department.

ED EL 595 Sem 10 Seminar in Elementary Education: Canadian Literature for Young People in Schools and Librarie ★3

ED EL 595 Sem 11 Seminar in Elementary Education: Language Arts Through Drama ★3

ED EL 595 Sem 30 Seminar in Elementary Education: Intelligent Learning of Mathematics from an Advanced Viewpoint ★3

ED EL 595 Sem 60 Seminar in Elementary Education: Computers in Language Arts ★3

ED EL 595 Sem 61 Seminar in Elementary Education: Writing Workshop for Elementary Teachers ★3

ED EL 595 Sem 62 Seminar in Elementary Education: School Library Services for French Immersion Programs ★3

ED EL 596 Lec 60 Special Seminars in Elementary Education: An Introduction to Intelligent Learning of Mathematics ★2

ED EL 596 Lec 61 Special Seminars in Elementary Education: Estimation and Mental Computation for Elementary School Children ★2

ED EL 596 Lec 62 Special Seminars in Elementary Education: Effective Teaching in the Classroom ★2

ED EL 696 Conference Course in Elementary Education ★6■

EDUCATION - ELEMENTARY AND SECONDARY (COMMON COURSES)

ED ES 443 School Librarianship ★3 Introduction to the philosophy and administration of school library programs. Prerequisite: Successful completion of practicum requirements or teaching experience.

ED ES 546 School Library Information Materials ★3 Prerequisite or corequisite: ED ES 443 or consent of the Department.■

EDUCATION — PRACTICUM

ED PR 454 Student Teaching at Post-Secondary Level: I ★3 (variable).■

EDUCATION — ADULT, CAREER, AND TECHNOLOGY EDUCATION

EDACT 245 Introductionto Vocational Technical Education ★3 Background and role of vocational education in Canada and abroad, including the early influences of apprenticeship and guilds.

EDACT 274 Introduction to Microcomputers in Education ★3 Educational applications of microcomputers. Practically oriented course which emphasizes applications. Other topics include the historical development of the computer, an introduction to operating systems and computer programming.

EDACT 404 Lec 60 Developmental Course: Computer Based Learning ★3 Prerequisite: Consent of the Department

EDACT 404 Lec 61 Developmental Course: Introduction to Adult Education ★3 Prerequisite: Consent of the Department

EDACT 485 Performance Evaluation in Industrial and Vocational Education ★3 This course includes selected aspects of evaluation of importance to teachers who specialize in technical, vocational or industrial arts education. Various techniques of assessing learning or behaviour in the cognitive, affective, and psychomotor domains are considered. The course is taught from an applications point of view. Specific theories of evaluation are not considered as such, but constructs, principles and techniques of measurement are considered from the practical perspective of those who teach industrial arts, vocational or technical education. This course is integrated with the practicum in a professional term. Integration is both in terms of content and scheduling. Prerequisite: EDACT 390 or EDACT 391. Corequisite: EDACT 497, ED PR 357, ED PR 358, ED PR 359.

EDACT 496 Individual Directed Study ★3 Prerequisite: Consent of the Department.

EDACT 498 Individual Directed Laboratory Study ★3 Prerequisite: Consent of the Department.

EDACT 503 Lec 10 Special Topic: Topics in Computer Based Instruction ★3 Prerequisite: Consent of the Department

EDACT 503 Lec 60 Special Topic: Computer Based Learning ★3 Prerequisite: Consent of the Department

EDACT 503 Lec 61 Special Topic: Career and Technology Studies ★3 Prerequisite: Consent of the Department

EDACT 585 Individual Directed Laboratory Study: Interactive Media ★3

EDACT 587 Individual Directed Study ★3 Prerequisite: Consent of the Department.

EDACT 591 Problems and Trends in Industrial and Vocational Education ★3■

EDUCATION — ADMINISTRATION

EDADM 401 The Role of the Teacher ★3

EDADM 501 Evolving Concepts in Educational Administration ★3

EDADM 502 Administrative Processes in Education ★3

EDADM 505 Lec 60 Selected Topics in Educational Administration I: Local Control of Native Education ★3

EDADM 505 Lec 61 Selected Topics in Educational Administration I: French Language Education in Alberta (Questions relatives a l'administration de l'education francaise en Alberta) ★3

EDADM 506 Selected Topics in Educational Administration II ★3

EDADM 511 Research Design and Data Analysis I ★3.

EDADM 512 Research Design and Data Analysis II ★3.

EDADM 515 Research Projects I ★3. Prerequisite: Consent of the Department.

EDADM 516 Research Projects II ★3. Prerequisite: Consent of the Department.

EDADM 521 Supervision of Educational Personnel ★3

EDADM 541 Planned Change in Educational Organizations ★3

EDADM 551 Administration of Public Education in Canada ★3

EDADM 553 Legal Aspects of Educational Administration ★3

EDADM 565 Educational Finance ★3

EDADM 566 Operational Finance ★3

EDADM 571 The Organization of Postsecondary Education ★3

EDADM 594 Seminar and Practicum in Administrative Behavior II ★3 Prerequisite: Consent of the Department.

EDADM 595 The School Principalship: Seminars and Simulations ★3 Applied activities and academic studies which enable the student to learn skills and knowledge pertinent to the responsibilities of the principal, by disciplined reflection on their performance in simulated administrative situations. Prerequisite: EDADM 501 and 502 or consent of the Department.

EDADM 672 Problems in Administration of Postsecondary Education II ★3 Prerequsite: Consent of the Department.■

EDUCATION — ADULT

EDADU 439 Methods and Programs in the Teaching of English as a Second Language to Adults ★3 Coordinated by the Department of Elementary Education. Prerequisite: ED ED 450.

EDADU 521 Psychology of Learning and Teaching at the Adult Level ★3

EDADU 523 Administration of Further Education ★3

EDADU 551 Lec 30 Selected Topics in Adult Education: Continuing Professional Education ★3

EDADU 551 Lec 31 Selected Topics in Adult Education: Adult Education in Canada ★3

EDADU 551 Lec 60 Selected Topics in Adult Education: Community Adult Education ★3

EDADU 561 Curriculum Planning in Adult and Higher Education ★3

EDADU 577 Foundations of Adult and Higher Education ★3 This survey course examines the various interpretations and paradigms of adult and higher education. Ways of studying adult and higher education are presented using concepts, analysis, theories and methodologies from the various foundational disciplines.■

EDUCATION — FOUNDATIONS

EDFDN 301 Education in Canada: Selected Topics ★3 Not to be taken by students who have credit in EDFDN 201.

EDFDN 340 Concepts of Teaching and Schooling in History ★3 An examination and analysis of teaching and schooling throughout the history of Western Civilization, with particular emphasis upon the modern period.

EDFDN 341 Concepts of Childhood in History ★3 A study of those views of childhood which have exerted a significant influence on educational theory and practice over the last two hundred years.

EDFDN 350 The Ethics of Teaching ★3 A study of the applied ethics of teaching.

EDFDN 360 Society and Education ★3 The changing function and structures of education, with special reference to contemporary Canadian society.

EDFDN 361 Sociology of Learning and Achievement ★3

EDFDN 401 Selected Topics in Educational Foundations ★3 Prerequisite: Consent of the Department.

EDFDN 431 The Education of Selected Minority Groups in Western Canada: An Historical Study ★3 An examination of the education of immigrants and their children since Confederation with special attention to the content and agencies of Canadianization.

EDFDN 432 The Education of Native Peoples in Canada: An Historical Study ★3 An examination of the education of Indian, Metis, and Eskimo peoples with special attention to church-state and federal-provincial relations.

EDFDN 452 Education and Theories of Knowledge: A Philosophical Approach ★3

EDFDN 493 Basic Issues in Contemporary Education ★3

EDFDN 495 Developing a Philosophy of Education ★3

EDFDN 501 Lec 10 Conference Course on Selected Topics: Literature and Education ★3 Prerequisite: Consent of the Department

EDFDN 501 Lec 40 Conference Course on Selected Topics: Global Education ★3 Prerequisite: Consent of the Department

EDFDN 557 Learning and the Philosophy of Knowledge ★3

EDFDN 561 Community Education: A Sociological Perspective ★3 The organization and processes of community education at the local, provincial and national levels of social interaction as seen from the theory and research of contemporary sociology.

EDFDN 564 Education and Social Change ★3■

EDUCATION — MEDIA

EDMDA 351 Introduction to Educational Media and Instructional Technology ★3■

EDUCATION — PSYCHOLOGY

EDPSY 255 Psychoeducational Diagnosis and Assessment of Exceptional Children ★3 Prerequisite: EDPSY 151 and 155. Corequisite: EDPSY 257. Special Education minors only.

EDPSY 257 Behavioral Management of Exceptional Children ★3 Special Education minors only. Prerequisite: EDPSY 151 and 155. Corequisite: EDPSY 255.

EDPSY 329 Educational Psychology of Adolescence ★3

EDPSY 341 Psychology of Exceptional Children and Youth ★3 Not to be taken by students with credit in EDPSY 151/155.

EDPSY 363 Introduction to Educational Psychology: Development ★3 Restricted to students in the BEd/AD program. A student who has taken both PSYCO 104 and 105 should take a senior EDPSY course instead of EDPSY 363. A student who has taken either one of PSYCO 104 or 105 must take EDPSY 363.

EDPSY 371 Learning, Instructional Psychology and Educational Practice ★3

EDPSY 397 Educational Psychology Seminar ★3 Prerequisite: Consent of the Department.

EDPSY 411 Introduction to Guidance ★3 Prerequisite: EDPSY 163 or equivalent.

EDPSY 489 Test Construction for Teachers ★3 Prerequisite: EDPSY 163 or consent of the Department.

EDPSY 493 Basic Issues in Contemporary Education ★3

EDPSY 495 Interpersonal Communication for Teachers ★3

EDPSY 497 Lec 10 Senior Seminars: Severe Disabilities: Communication ★3 Prerequisite: Consent of the Department.

EDPSY 497 Lec 60 Senior Seminars: Psycological Issues in the New Alberta Health Curriculum ★3 Prerequisite: Consent of the Department.

EDPSY 497 Lec 61 Senior Seminars: Psycological Issues in the Education of Deaf Students ★3 Prerequisite: Consent of the Department.

EDPSY 497 Lec 62 Senior Seminars: Psycology and Education of Gifted Children ★3 Prerequisite: Consent of the Department.

EDPSY 500 Introduction to Data Analysis in Educational Research ★3 Formerly EDPSY 501 before 1989/90.

EDPSY 501 Introduction to Methods of Educational Research ★3 Prerequisite: EDPSY 500 or equivalent. Formerly EDPSY 503.
EDPSY 509 Advanced Educational Psychology: Development ★3 Formerly EDPSY 569 before 1989/90.
EDPSY 510 Advanced Educational Psychology: Learning ★3 Formerly EDPSY 571 before 1989/90.
EDPSY 514 Cross-Cultural Psychology ★3 Formerly EDPSY 555 before 1989/90. Prerequisite: Consent of the Department.
EDPSY 544 Principles of Psychological Testing and Assessment ★3 Prerequisite: Consent of the Department. Formerly EDPSY 513 before 1989/90.
EDPSY 545 Individual Psychological Assessment ★6 Prerequisite: Consent of the Department. Formerly EDPSY 524 before 1989/90.
EDPSY 546 Preschool Assessment Strategies ★3 This course fits into diploma, masters and doctoral programs in basic educational psychology, school psychology, special education, and counselling psychology as an option in students' programs. As well, it serves as an option for students in other departments, i.e. early childhood education, psychology (developmental). Prerequisite or corequisite: EDPSY 509 and EDPSY 544 or EDPSY 549 and/or consent of the Department.
EDPSY 556 Problems and Issues in Special Education: High Incidence Groups and Service Delivery ★3 Prerequisite: Consent of the Department. Formerly EDPSY 530 before 1989/90.
EDPSY 571 Internship in Education of the Hearing Impaired Students ★variable Supervised placement for experienced teachers of hearing impaired students and other professionals experienced in this or a related area. Placement will be determined by the needs of each student registered in the course. Formerly EDPSY 548 before 1989/90.
EDPSY 582 Severe Disabilities: Communications ★3 Relates to profoundly or severely mentally retarded, multiply handicapped persons. Alternates between second and spring term. Prerequisite: Consent of the Department. Formerly EDPSY 585 before 1989/90.
EDPSY 592 Psychology and Education of Gifted Children ★3 Formerly EDPSY 567 before 1989/90.
EDPSY 597 Lec 11 Special Seminars: Consultation Procedures, Skills and Models ★3 Prerequisite: Consent of the Department.
EDPSY 597 Lec 30 Special Seminars: Principles of Professional Practice in Psychology and Counselling ★3 Prerequisite: Consent of the Department.
EDPSY 597 Lec 60 Special Seminars: Psychological Issues in the New Alberta Health Curriculum ★3 Prerequisite: Consent of the Department.
EDPSY 597 Lec 61 Special Seminars: Issues in the Education of Deaf Students ★3 Prerequisite: Consent of the Department.
EDPSY 697 Special Seminars ★3 Prerequisite: Consent of the Department. Content varies from year to year. Topics announced prior to registration period. The student's transcript carries title descriptive of content. May be repeated.■

EDUCATION - SECONDARY

EDSEC 400 Conference Seminar ★3
EDSEC 401 Lec 61 Conference Seminar: Building Instructional Materials for Secondary Social Studies Teaching ★3
EDSEC 401 Lec 60 Conference Seminar: Teaching a Second Language in Asian Language Schools ★3
EDSEC 401 Lec 40 Conference Seminar: An Introduction to Second Language Education ★3
EDSEC 439 Specialized Methods in Secondary School Mathematics Teaching ★3
EDSEC 463 Environmental Education for the Secondary School ★3 Prerequisite: Consent of the Department.
EDSEC 475 New Approaches in Secondary School Social Studies ★3 Prerequisite: Consent of the Department.
EDSEC 501 Lec 10 Conference Seminar in Secondary Education I: The Use of a Journal as a Research Technique ★3 Prerequisite: Consent of instructor and the Department.
EDSEC 501 Lec 60 Conference Seminar in Secondary Education I: Curriculum and Instruction in Personal, Career and Life Management Education ★3 Prerequisite: Consent of the Instructor and Department.
EDSEC 503 Curriculum Development ★3 Curriculum theory and research with particular reference to determinants of curriculum, curriculum development, implementation and evaluation.
EDSEC 504 Current Curriculum Development ★3 The application of curriculum theory to a specific task; the planning of a curriculum which can be used by teachers as a point of departure for their teaching.
EDSEC 600 Lec 30 Secondary Education: Understanding Curriculum and Pedagogy Within the Narrative Discourse of Practicing Teachers ★6
EDSEC 600 Lec 60 Secondary Education: Curriculum in a Post Modern Context ★6■

ENGINEERING, GENERAL

ENGG 210 Engineering Drawing and Computer Graphics ★3 Multiview representation, pictorial views of three-dimensional objects. Introduction to MS/DOS. Computer-aided graphics using AutoCAD on microcomputers. Note: Students in all sections of this course will write a common final examination.

ENGG 231 Engineering Mechanics II ★3 Centroids and centers of gravity. Forces in beams and cables. Force and moment diagrams. Distributed forces. Fluid Statics. Second moments of area. Particle kinematics and kinetics. Energy and momentum of a particle. Systems of particles. Prerequisite: ENGG 230 and MATH 100. Note: Students in all sections of this course will write a common final examination.■

ENGLISH

ENGL 110 English Literary Forms. ★6 This course combines an introduction to the various genres of English literature in prose and verse, including drama, through a close study of representative authors, both modern and traditional, with formal instruction in writing skills. One-third of the course is devoted to writing instruction.

ENGL 175 Readings in Prose ★3 A close study of selected modern and traditional verse to introduce the student to ways of approaching and critically evaluating poetry. Note: Not for degree credit to students enroled in the BA degree program (AR20).

ENGL 303 Children's Literature in English ★6. An historical and critical study of children's literature in English. It includes books written especially for children and books annexed from English literature by children. Note: Not to be taken by students with credit in ENGL 304 or 305.

ENGL 304 Folklore in Children's Literature in English ★3 An examination of the related fields of folklore and fantasy in children's literature in English. It deals with those elements of folklore, mythology and legend that have become a traditional part of children's literature and also includes certain modern adaptations and fantasies which have their origins in myth and folklore. Note: Not to be taken by students with credit in ENGL 303.

ENGL 306 Introduction to the English Language ★3 This course introduces the grammar of English sounds, words, and sentences as a basis for further studies in language and literature. Note: Not to be taken by students with credit in ENGL 288 or 313, or LING 101 or 203.

ENGL 309 Expository Writing ★6 The purpose of this course is to increase the student's ability to write clear expository prose. The study of models of prose style will be central, combined with frequent practice in writing on the basis of such models. Note: Not to be taken by students with credit in ENGL 307 or 308.

ENGL 332 Shakespeare ★6 A study of representative plays. Note: Not to be taken by students with credit in ENGL 333.

ENGL 360 Early Twentieth-Century American Novel ★3 Representative works of twentieth century Amercian novelists to mid-century. Note: Not to be taken by students with credit in ENGL 383.

ENGL 366 The Short Story ★3 Representative works of writers illustrating the tradition of the short story in English.

ENGL 389 Canadian Prose from 1925 ★3 A critical and historical study of representative Canadian non-dramatic prose in English from 1925 to the present. Not to be taken by students with credit in ENGL 382, 384, or 386.

ENGL 442 Studies in Nineteen and Twentieth-Century Prose ★3 Prerequisite: One of ENGL 311, 341, 343, 345, 350, 351, 356, 357, 358, 359, 360, 361, 366, 372, 373, 374, 376, 378, 380, 381, 382, 383, 388, or 389, or the consent of the Department.

ENGL 444 Selected Prose Fiction ★3 A study of several works by each of no more than four fiction writers. Prerequisite: One of ENGL 341, 343, 350, 351, 357, 358, 359, 360, 361, 366, 373, 374, 378, 380, 381, 382, 383, 388, or 389; or consent of the Department.

ENGL 679 Studies in Twentieth-Century Literature ★3

ENGL 694 Studies in Literary Techniques ★3■

EVALUATION EN ÉDUCATION/EVALUATION IN EDUCATION

EVAED 498 La mesure et l'évaluation en éducation ★3 La définition des objectifs. La mesure critériée et normative. L'évaluation sommative, formative et diagnostique. Les étapes de la planification d'un examen. L'observation des élèves. L'évaluation des attitudes. L'analyse et l'interprétation des résultats.■

FILM STUDIES

F ST 200 Introduction to the Study of Film ★6 A survey of major areas in film studies, emphasizing history, theory, film language, and the study of individual masterpieces. Prerequisite: Six weights junior English courses, or ART H 101, and 102, or C LIT 100 or 301/302, PHIL 140, or equivalent. Not open to students with credit in F ST 205.■

FAMILY STUDIES

FAM 445 Practicum in Family Services ★6 Students will be placed in one of a variety of family related agencies for two full days per week during the second term. In addition, attendance at one seminar per week is required. Prerequisite: FAM 444. Note: Open only to senior Family Studies majors. Must be taken during the same year as FAM 444.

FAM 449 Lec 30 Family and Human Development: Consumers and Environments ★3

FAM 460 Family and Consumer Law ★3 An exploration of family and consumer law from a user's perspective. (To be taught in cooperation with the Faculty of Law.) This course will be offered during Special Sessions only.

FAM 649 Sem 10 Seminar in Family Studies: Selected Topics (Action, Research, and Evaluation Facilitating Empowerment) ★3 By permission of instructor only.■

FOODS AND NUTRITION

FD NU 325 Introductory Human Nutrition I ★3 Basic principles of nutrition. The need for and functions of the major nutrients in the human. Prerequisite: CHEM 160 or PHYSL 260, 161, or 162 or equivalent. Not open to Foods and Nutrition or Food Science majors.

FD NU 327 Introductory Human Nutrition II ★3 Further emphasis on the need for and functions of the major nutrients in the human. Prerequisite: FD NU 325. Not open to Foods and Nutrition or Food Science majors.■

FINANCE

FIN 301 Business Finance ★3 Introduction to financial decision-making. Prerequisite: ACCTG 322, MANEC 301, MGTSC 312, CMPUT 157.

FIN 412 Investment Principles: Security Analysis ★3 Theories of investment with special reference to types of securities, prices, and market operation. Analytical techniques in the selection of securities. Prerequisite: FIN 301.

FIN 422 Capital Investment ★3 Capital budgeting and the determination of the cost of capital to the firm. Prerequisite: FIN 301.■

FRANÇAIS/FRENCH

FRANC 110 Cours de français intermédiaire: niveau I ★6 Cours intensif: compréhension orale et écrite, usage créatif de la langue, acquisition des structures grammaticales de base. Prérequis: French 30, ou l'équivalent. Affectation par test de classement. Note: Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 150 ou 152 à la Faculté des Arts. Cours complet enseigné sur un semestre.

FRANC 113 Cours de français avancé: niveau I ★3 Etude et mise en pratique des points principaux de la morphologie et de la syntaxe du français. Travaux d'application oraux et écrits. Prérequis: French 30 ou l'équivalent. Affectation par test de classement. Ce cours n'est pas accessible aux étudiants ayant ou postulant des crédits pour FREN 158 à la Faculté des Arts. (Précédemment, partie de FRANC 215.)

FRANC 114 Cours de français avancé: niveau II ★3 Développement de l'expression orale et écrite. Etude approfondie de la syntaxe du et de la morphologie français. Travaux d'application. Prérequis: FRANC 113. Précedemment, partie de FRANC 215.

FRANC 315 Cours de francias intermediaire: niveau III ★3 Perfectionnement de l'expression ecrite. Etude d'aspects particuliers de la grammaire francaise. Travaux d'ecriture et prati que de l'autocorrection. Prerequs: FRANC 110. Note: Ce cours n'es t pas accessible aux etudiants ayant ou postulant des credits pour F REN 350 a la Faculte des Arts.

FRANC 319 Cours de francais avance: niveau III ★3 Revision systematique de la grammaire francaise et etude a pprofondie d'aspects particuliers du francais. Mise en practique de la theorie par des travaux de redaction. Note: Ce cours n'est pas accessible aux etudiants ayant ou postulant des credits pour FREN 34 0 a la Faculte des Arts. (Precedemment FRANC 321.)

FRANC 322 Pratique de la dissertation ★3 La compréhension, l'analyse et la synthèse de données. L'étude et la manipulation du raisonnement logique. La recherche et l'exploitation des arguments. L'élaboration et la mise en forme de la dissertation comme texte clair, cohérent et convaincant. Travaux pratiques. Cours obligatoire pour l'obtention du diplôme de la Faculté. Prérequis: FRANC 315, 319, ou l'équivalent.■

FRENCH AND FRENCH-CANADIAN LANGUAGES AND LITERATURES
(Department of Romance Languages)

Note: Only one of FREN 100 or 105 may be taken for credit. Only one of FREN 150, 152, or 158 may be taken for credit.

FREN 100 Beginners' French ★6 Designed to enable students to begin their study of French at the university level. Note: Not open to students with matriculation in French, ie. French 30 or equivalent. Normally, students will go from FREN 100 to FREN 150.

FREN 150 First-Year University French ★6 Intensive training in spoken and written French, including grammar, composition, and literature. Prerequisite: French 30 or equivalent. Note: Not open for credit to students having credit or registered in Faculté Saint-Jean FRANC 110.

FREN 155 Basic Skills for Reading French ★3 A basic course in French grammar and literature designed to develop skills in reading French. Language of instruction is English. Prerequisite: French 30 or equivalent. Note: Not accepted to meet the requirements in a principal area of concentration.

FREN 156 French Reading Comprehension ★3 An intermediate course in French grammar and literature. Language of instruction is English. Prerequisite: FREN 155 or consent of the Department. Note: Not accepted to meet the requirements in a principal area of concentration.

FREN 250 Second-Year University French ★6 Designed to perfect written and oral knowledge of French. The course aims at achieving adequate fluency to enable students to proceed in literature, translation and/or composition courses. Prerequisite: Any junior-level French course except FREN 155 or 156. Note: May not be taken concurrently for credit with either FREN 350 or FR CA 340 or FREN 258 except by consent of the Department.■

GENETICS

GENET 165 Genetics and Human Welfare ★3 An introduction to the genetics of human development and variability. The analysis of human DNA, genes and chromosomes will lead to discussions of: human diseases; prenatal diagnosis; viruses; cancer; applications of biotechnology and human evolution. Note: Students with credit in BIOL 197 cannot receive credit in GENET 165. Students with credit in GENET 165 may register in BIOL 197 or GENET 351 for credit. Students with credit in BIOL 197 may wish to register in GENET 275. Prerequisite: Biology 30.■

GEOGRAPHY

Note: GEOG 130 and 131 do not have to be taken in sequence; they are completely separate courses. Either one may be taken without the other, and GEOG 131 can be taken before GEOG 130.

GEOG 130 Introductory Physical Geography I ★3 Introduction to geomorphology: the nature and formation of major landform features of the earth's surface. Rock weathering and slope movements. Landforms developed by erosional and depositional processes of rivers, glaciers, winds, waves and currents. Laboratory work required.

GEOG 131 Introductory Physical Geography II ★3 Introduction to the atmosphere and biosphere. Physical elements of weather and climate. Causes, changes and patterns of weather. Climatic classification. Spatial and dynamic interrelations of climate, soils and vegetation. Laboratory work required. Note: GEOG 130 does not have to precede GEOG 131.

GEOG 244 Introduction to Third-World Geography ★3 Outlook, traditions and potentials of developing nations in Africa, Asia and the Americas. Characteristics of their environments, natural resources and land use. Geographical and other causes of their slow economic development. Trends in their population, urbanization, industrialization and trade - the need for North-South dialogue.

GEOG 281 Geography of the City ★3 Origin and spread of urban settlement; problems arising from the growth and form of metropolitan areas and inter-city systems.

GEOG 282 Geography of Urban Canada ★3 Spatial aspects of urban development in Canada with particular reference to current research and literature.

GEOG 340 Regionalization in Canada ★3 The regional organization of Canadian life; the influence of variation in resources, geographical location, population, urbanization, industrialization, ethnic presence, and external relations in giving rise to regional differentiation in contemporary Canada. Note: Not open to students with credit in GEOG 400.■

GEOLOGY

Note:

(1) Students enrolled in Honors and Specialization in geophysics, and Honors andSpecialization in geology and zoology will be given preference in registering in geology courses which are required in these four-year programs.

(2) Students are responsible for their own accommodation and meal expenses on all geology field trips.

(3) GEOL 201, 204, 205, 206, 207, 208, and 295 are intended for students following programs other than geology. Students in Honors or Specialization programs in geology, geology and geophysics , or geology and zoology may not take them without consent of the Department.

GEOL 201 Earth Science I ★3 Nature, origin and evolution of the universe and of planetary systems; the physical properties of the earth and of its environment; the materials and structures of the earth's interior and surface and the processes affecting these regions, such as continental drift, the formation of ocean basins and mountain building. Prerequisite: A 100-level science course. Not available to students who have taken GEOL 102, or 290.

GEOL 204 Earth Science II ★3 Measurement of geologic time; history of life on earth and the geological evolution of North America; nature and origin of mineral deposits; geology of coal, oil and gas. Not available to students with credit in GEOL 103. Prerequisite: GEOL 102 or 201.

GEOL 207 Environment Earth ★3 Early history of the earth; formation of the hydrosphere and atmosphere and their evolution to the present 'stable' state; atmosphere and hydrosphere as solar-powered heat engines; hydrologic cycle, water supply and groundwater; geological factors affecting the disposal of waste; quantitative evaluation of the effects on the environment of man's exploitation and use of mineral resources; future availability of fuel and of metallic minerals; permafrost, exploration and construction; earthquakes and man-made explosions; earth resources; observational satellites. Prerequisite: GEOL 102 and 103 or GEOL 201 and 204.

GEOL 208 Earth Sciences III: Geology of the Moon and Planets ★3 Geological properties of the planets. Origin and evolution of the planets: results of space exploration. Planet Earth as now viewed. Prerequisite: GEOL 103 or 204 or 292.■

GERMAN
Department of
Germanic Languages

GERM 165 Reading German for Beginners ★6 An intensive course to give beginning students a reading knowledge of German in the sciences, the arts and the humanities. Note: Not available to students with matriculation standing in German.

GERM 301 Advanced German Grammar and Stylistics ★6 Theoretical and practical study of the more complex areas of German grammar, style and idiomatic usage. Prerequisite: GERM 150, 151, or consent of the Department. Note: Not to be taken after completion of any 400-level German course except with special departmental permission.■

GREEK
Department of Classics

GREEK 100 Beginners' Greek ★6 Essential grammar and vocabulary, the reading of easy Greek and simple sentences for translation into Greek. Not open to students with credit in matriculation-level Greek, during the same year as FAM 444.■

HEALTH EDUCATION

HE ED 210 Introduction to Health Promotion ★3 This course is designed to introduce students to the concepts of the health promotion.■

HISTORY

HIST 100 European History ★6 The evolution of European society from the decline of the Roman Empire in the West to the present.

HIST 110 Early World History II ★3 World history from the end of the 6th century to the 18th century. Note: Students choosing HIST 110 for partial fulfillment of the Humanities Group A requirement must also take CLASS 110. Students will be expected to have a knowledge of material covered in CLASS 110 and it is therefore strongly recommended that they take CLASS 110 first.

HIST 120 World History Since the Eighteenth Century ★6 Core course for the four year BA.

HIST 251 American History Since 1865 ★3 A survey of United States History from Civil War to the present.

HIST 260 An Introduction to the Study of Canadian History 1500-1867 ★3 Note: Formerly HIST 278. Not open to students with credit in HIST 278.

HIST 261 An Introduction to the Study of Canadian History 1867 to the Present ★3 Note: Formerly HIST 279. Not open to students with credit in HIST 279.

HIST 320 The Soviet Union ★6 A historical survey of domestic and foreign policy since 1917.

HIST 365 The Canadian West to 1870 ★3 A lecture course emphasizing the history of the prairie west but dealing as well with westward expansion and the north and with the trans-mountain west.

HIST 439 Imperial Vienna from Mozart to Freud, 1750-1918 ★6 A history of the Habsburg Monarchy in the modern era, with special focus on the imperial capital, Vienna. Prerequisite: One course in European history or consent of the Department. A knowledge of German, though useful, is not required. Note: This course is given in Vienna during the Summer Session only. Those interested may obtain more information from the History Department.■

HISTOIRE/HISTORY

HISTE 375 Le Canada français depuis la Confédération ★3 L'évolution du Canada français étudiée dans sa globalité: économie, société, vie politique.■

INDUSTRIAL RELATIONS

IND R 301 Industrial Relations in Canada ★3 A general introduction to studying employment relationships in unionized and non-unionized organizations and how they are affected by factors within the larger legal, socio-economic, and political environment.

IND R 423 Staffing ★3 Philosophy and procedures in obtaining an effi cient work force with emphasis on the methods of initiating and car rying out an effective human resource management program. Includes r ecruitment, selection, training, and development of human resources. Prerequisite: ORG T 301 and IND R 301.■

INTERDISCIPLINARY STUDIES

Courses listed as Interdisciplinary Studies are the joint concern of the departments stated in the course descriptions. Responsibility for registration is with the department shown in square brackets. For additional information please consult that department or other participating departments.

INT D 465 Natural Resource Utilization ★3 Economics of utilizing and conserving land, water and energy resources in Agriculture and Forestry. Prerequisite: INT D 365. [Rural Economy]■

LATIN
Department of Classics

LATIN 100 Beginners' Latin ★6 Essentials of grammar, syntax, the reading of easy Latin and prose composition. Secondary emphasis on the connexion of English with Latin. Note: Students who have taken Latin 30 or equivalent should consult the Department adviser.■

LAW

LAW 300 Law for Non-LLB Students I ★3 The nature, functions, and sources of law; an outline and components of the Canadian legal system. Note: Not available for credit in the LLB Program.

LAW 301 Law for Non-LLB Students II ★3 Topics to be covered will be chosen from among the following: Morality, Obscenity and the Law; Industrial Relations; the Law and the Family; the Law as a Protector; Freedoms allowed under the Legal System; the Law and the Environment. Prerequisite: Normally, LAW 300 would be a prerequisite but this requirement may be waived at the discretion of the instructor. Note: Not available for credit in the LLB program.■

LEGAL RELATIONS

LEG R 301 Legal Foundations of the Canadian Economy ★3 A synoptic view of the Canadian legal system, with emphasis on underlying considerations of social policy. While considering the nature, courses, philosphy, and policy objectives of the law. selected topics from the fields of tort and contract will be analysed.■

LINGUISTICS

LING 101 Introduction to the Study of Language I ★3 A general survey of the scientific study of language. Topics include attitudes and beliefs about language, origins of language, language compared to other animal communication systems, the physical basis of speech and language, language and society, language description.

LING 203 Introduction to Linguistics ★3 Methods for the analysis of language; phonetics, phonology (sound structure), morphology (word formation), syntax (sentence structure), semantics, and pragmatics. This course is a prerequisite for most other courses in the Department. Not normally open to students in the first year except with consent of the Department.

LING 204 English Syntax ★3 Transformational description of the syntax of modern English. Prerequisite: LING 101 or 203.■

LIBRARY AND INFORMATION STUDIES

LIS 412 Storytelling ★3 To examine the past and present forms of storytelling, including the oral tradition, the function of the storyteller, the selection of material and the techniques of telling stories and listening to stories.

LIS 593 Archives Administration ★3To develop an understanding of archival records and their role in the preserva tion of information resources.

LIS 594 Records Management ★3 To develop an understanding of records management.

LIS 598 Lec 10 Special Topics: Legal Bibliography ★3

LIS 598 Lec 40 Special Topics: Business Literature ★3■

MARINE SCIENCE

Note: Courses are offered during the Intersession (Spring and Summer terms) at the Bamfield Marine Station - check with the Department of Zoology.

MA SC 400 Directed Studies ★6 A course of directed studies under the supervision of a visiting professor. The study will involve a research project approved by the supervisor in the field of interest of the student, and will be designed to take maximum advantage of the laboratory and/or field opportunities offered by the Bamfield Marine Station.

MA SC 401 Special Topics in Marine Biology ★6 Offered, as opportunities arise, by distinguished scientists who are working at the Bamfield Marine Station. It is expected that the course will generally be of a specialized nature and be at a level appropriate to graduate or senior undergraduate students.

MA SC 402 Lab 30 Special Topics in Marine Biology: Echinoderm Biology ★3

MA SC 402 Lab 60 Special Topics in Marine Biology: Island Biogeography ★3

MA SC 402 Lab 61 Special Topics in Marine Biology: Marine Biology for Teachers ★3

MA SC 402 Lab 62 Special Topics in Marine Biology: Introduction to Marine Education ★3

MA SC 402 Lab 63 Special Topics in Marine Biology: Fossils of the Burgess Shale ★3

MA SC 410 Marine Invertebrate Zoology ★6 A survey of the marine phyla, with emphasis on the benthic fauna in the vicinity of the Bamfield Marine Station. The course includes lectures, laboratory periods, field collection, identification, and observation. Emphasis is placed on the study of living specimens in the laboratory and in the field.

MA SC 420 Marine Phycology ★6 A survey of the marine algae, with emphasis on the benthic forms in the vicinity of the Bamfield Marine Station. The course includes lectures, laboratory periods, field collection, identification, and observation. Emphasis is placed on the study of living specimens in the laboratory and in the field.

MA SC 440 Biology of Marine Birds ★6 A study of the inter-relationship of birds and the marine environment. Lectures will emphasize the systematics and ecological relationships, behavior, life histories, movements and conservations of marine birds. Census techniques and methods of studying marine birds in the field will be treated as we observe seabirds and marine associated birds in the Barkley Sound region. Seabird identification, classification, morphology, plumages and moult will be examined in the laboratory.

MA SC 446 Comparative Ethology ★6 A comparative study of marine animals (vertebrate and invertabrate) emphasizing behavioral description, underlying physiological mechanisms, the biological significance of behavior and behavioral evolution. The course will include independent laboratory and field studies.

MA SC 450 Principles of Aquaculture ★6 An interdisciplinary introduction to the principles underlying the commercial cultivation of aquatic plants and animals empha sizing marine systems. The course will include working site-visits to a range of commercial farms and R & D facilities.

MA SC 454 Special Topics in Aquaculture: Molluscan Aquaculture ★3 An examination of the culture techniques for selected grou ps of aquatic plants, animals or microorganisms. Participants will be expected to complete a project which examines some aspect of appl ied science relevant to commercial culture.

MA SC 460 Special Topics in Aquaculture Applied Science: Fish and Shellfish Health ★3 An examination of the principles underlying the applicatio n of selected areas of scientific information to commercial aquacult ure. Participants will be expected to complete a written project.

MA SC 470 Directed Research in Aquaculture ★3 Design and execution of a research project in the field of aquaculture under the supervision of a scientist working in associat ion with the Bamfield Station. A written report is a requirement.

MA SC 500 Graduate Level Directed Studies ★6 A graduate level course of directed studies under the supe rvision of a member of the faculty. The study will involve a resear ch project provided by the supervisor in the field of interest of th e student, and will be designed to take maximum advantage of the lab oratory and/or fiéld opportunities offered at Bamfield Marine Station.■

MANAGERIAL ECONOMICS

MANEC 301 Micro-economics for Canadian Business Management ★3 Theories of choice as applied to consumer behavior and business decisions, production and price determination in alternative market forms; interrelatedness of firm decisions and of market outcomes; the impact of uncertainty. Prerequisite: ECON 101/102, MATH 113 or equivalent. Students may receive credit for only one of ECON 381, 383 or MANEC 301.■

MATHEMATICS

MATH 101 Calculus II ★4.5 Applications of integration to lengths, areas, volumes and masses. Transendental functions. Methods of integration, polar coordinates, parametric equations. Vectors, vector functions and derivatives. Prerequisite: MATH 100 or equivalent. Note: This course may not be taken for credit if credit has already been obtained in either MATH 115 or 118.

MATH 113 Elementary Calculus I ★3 Review of analytic geometry. Differentiation and integration of simple functions. Applications. Prerequisite: Mathematics 30 or equivalent. Students who have taken Mathematics 31 are advised to take MATH 114. This course may not be taken for credit if credit has already been obtained in MATH 100, 114 or 117.

MATH 115 Elementary Calculus II ★3 Differentiation and integration of trigonometric, exponential and logarithmic functions. Indeterminate forms and improper integrals. Techniques of integration. Application. Prerequisite: MATH 113 or 114, or equivalent. Note: This course may not be taken for credit if credit has already been obtained in either of MATH 101 or 118.

MATH 120 Linear Algebra I ★3 Vector and matrix algebra, determinants, linear systems of equatons, vector spaces, eigenvalues and eigenvectors and applications. Prerequisite: Mathematics 30 or equivalent. Note: This course may not be taken for credit if credit has already been obtained in MATH 127, 200 or 243.

MATH 121 Linear Algebra II ★3 Bases, linear transformations, change of bases, eigenvalues and eigenspaces, diagonalization, inner product, Gram Schmidt orthogonalizaton process, orthogonal diagonalization, quadratic form, applications. Prerequisite: MATH 120 or equivalent; Mathematics 31 or MATH 113 is also recommended. Note: This course may not be taken for credit if credit has already been obtained in MATH 227.

MATH 153 Mathematics of Finance I ★3 Simple and compound interest, simple and general annuities certain; variable annuities and perpetuities, amortization schedules, sinking funds, applications. Prerequisite: Mathematics 30. Note: This course may not be taken for credit if credit has already been obtained in MATH 253.

MATH 201 Differential Equations I ★3 First order linear and non-linear equations. Linear differential equations with constant coefficients. Laplace Transforms, applications, Picard's Method. Series solutions. Prerequisite: MATH 101 or equivalent. Pre or corequisite: MATH 200.
NOTE: (1) Open only to Engineering and Agricultural Engineering students and Science students in the following programs: Specialization Physics, Specialization Geophysics; Specialization Computer Science, (Computer Design Stream), Specialization Computer Science (Scientific Computation Stream), or Specialization Geography (Meteorology). (2) This course may not be taken for credit if credit has already been obtained in any of MATH 205, 334, or 336.

MATH 214 Intermediate Calculus I ★3 Infinite Series. Plane curves and polar coordinates. Vectors and three dimensional analytic geometry. Partial derivatives. This course may not be taken for credit if credit has already been obtained in MATH 209 or MATH 217. Prerequisite: MATH 115, or equivalent.

MATH 215 Intermediate Calculus II ★3 First order and second order linear differential equations with constant coefficients. Curves, tangent vectors, arc length, integration in two and three dimensions, polar, cylindrical and spherical coordinates, line and surface integrals. Green's, divergence and Stoke's theorems. Note: This course may not be taken for credit if credit has already been obtained in MATH 209 or 217. Prerequisite: MATH 214.

MATH 223 Introduction to Abstract Algebra ★3 Properties of the integers, permutations, groups, Lagrange's theorem, factor groups, polynomials, rings, fields. Note: This course may not be taken for credit if credit has already been obtained in MATH 128. Prerequisite: Mathematics 30 and a previous university level mathematics course.

MATH 241 Geometry I ★3 Sensed magnitudes. Cross rates. Transformation theory. Prerequisite: Any 200-level Mathematics course.

MATH 242 Geometry II ★3 Transformation theory continued. Euclidean construction. Non-Euclidean geometry. Introductory projective geometry. Prerequisite: MATH 241.

MATH 253 Theory of Interest ★3 Accumulation and amount functions. Effective, simple, compound rates. Force of interest. Discount. Annuities certain, simple and general. Perpetuities. Amortization schedules and sinking funds. Bonds and other securities. Applications — valuation of securities, installment loans, depreciation, depletion, capitalized cost. Prerequisite: MATH 115 or equivalent.

MATH 311 Theory of Functions of a Complex Variable ★3 Complex numbers. Complex series. Functions of a complex variable. Cauchy's theorem and contour integration. Conformal mappings. Schwartz-Christoffel transformation. Inverse Laplace transforms. Note: This course is intended for Engineering students. Prerequisite or co-requisite: MATH 209 or 215.

MATH 323 Applied Algebra I ★3 Boolean Algebra, switching circuits, graph theory, matrix representations; applications to economics, communication networks and social science. Prerequisite: Any 300-level Mathematics course and a single-term course in linear algebra.

MATH 324 Elementary Number Theory ★3 Divisibility, prime numbers, congruences, quadratic residues, quadratic reciprocity, arithmetic functions and diophantine equations; sums of squares. Prerequisite: MATH 120, 223 (or 127, 128) and a 200-level Mathematics course.

MATH 334 Introduction to Differential Equations ★3 First and second order equations. Laplace transforms. Power series solutions. Introduction to special functions. Sturm-Liouville type equations. Calculus of variation. Note: This course may not be taken for credit if credit has already been obtained in any of MATH 201, 205, 336 or 401. Prerequisite: MATH 215 or 317 and MATH 120 or 127.■

MANAGEMENT SCIENCE

MGTSC 301 Probability and Statistics for Business, Part I ★3 Introduction to data anaylsis; probability; discrete and continuous random variables and probability distributions; expectation and variance; normal and binomial distributions; sampling; sampling distributions for means and proportions; quality control; confidence intervals and tests of hypotheses for means and proportions; Bayesian decision theory. Prerequisite: MATH 113 or 114.

MGTSC 312 Probability and Statistics for Business, Part II ★3 Statistical inference for the variance; statistical inference for the means, proportions and variances from two populations; analysis of variance; non-parametric statistics; joint probability distributions; marginal and conditional distributions; covariance, correlation and independence; contingency tables; simple linear regression, multiple linear regression, time series analysis. Prerequisite: MATH 120, MGTSC 301.

MGTSC 352 Operations Management ★3 A problem-solving course which introduces the student to deterministic and stochastic models which are useful for production planning and operations management in business and govern ment. Prerequisitie: MATH 120, MGTSC 301, CMPUT 157.■

MUSIC

MUSIC 100 Rudiments of Music ★3 Fundamentals of music theory approached through aural and written training. Note: Not open to BMus students.

MUSIC 101 Introduction to Music ★3 A study of music literature with an emphasis on listening and analytical tools. A brief survey of the history of Western music will be included.

MUSIC 165 Introduction to World Music ★3 Note: Not to be taken by students with credit in MUSIC 309.

Note: The ability to read music is required for all courses listed below.

MUSIC 201 Masterworks of Music ★3 A study of great works of music, chosen to represent various media and historical styles. Prerequisite: MUSIC 101 or equivalent.

MUSIC 209 Woodwind Techniques I ★3 Practical and theoretical instruction on single-reed instruments. Prerequisite: MUSIC 150 and 151.

MUSIC 211 Woodwind Techniques II ★3 Practical and theoretical instruction on flute, oboe and bassoon. Prerequisite: MUSIC 209.

MUSIC 431 Band Techniques ★3 Musical and practical aspects of band conducting. Prerequisite: A conducting course or substantial conducting experience.■

NATIVE STUDIES

NS 101 Introductory Cree ★6 A general introduction to Plains Cree (Y dialect) grammar and vocabulary, with practice in speaking and work in the language laboratory. No prior knowledge of Cree is assumed. Not open to students with matriculation standing in Cree.

NS 310 Native Issues and Insights (I) ★3 An overview of the background social/cultural/political issues in Native Studies that continue to have a definite impact on the contemporary situation. The focus of the course will be on Aboriginal peoples of the Canadian West and North. Experiences of indigenous peoples elsewhere will also be referred to for comparative purposes. Issues of Native rights, aspirations and conditions regarding language, land and self-government will be examined in more depth. Not available to students who have already taken NS 300. (NS 310 was formerly part of NS 300).

NS 311 Native Issues and Insights (II) ★3 An overview and survey of the major issues facing Canadian Aboriginal peoples and governments today, within a broader context of comparable issues for indigenous peoples and governments elsewhere. This will include Native rights, aspirations and conditions in relation to the following issues: language, land, self-government, maintaining traditional vocations, economic development, education and health. Insights into the hopes and concerns of native communities and individuals, including the dynamics of development and change. Sessions with native leaders will also form part of this course. Prerequisite: NS 310 or HIST 368/369 or consent of the School of Native Studies. Not available to students who have already taken NS 300. (NS 311 was formerly part of NS 300).

NS 340 Native Law ★3 A general and critical overview of the legal issues affecting Native people, with particular reference to Alberta and the NWT. Special attention will be given to the Constitutional Act of Canada, selected federal and provincial legislation, Treaties, and major court cases to introduce current application of native law. Prerequisite: NS 311 or NS 300 or consent of the School.

NS 390 Community Research Methods ★3 An introduction to the basic concepts, principles and issues in the area of community research. The objective of the course is to develop the student's ability to both apply and critique a range of research methods used to describe the different facets of a community. Prerequisite: NS 311.

NS 403 Selected Topics in Native Studies ★3 ■

NURSING

NURS 311 Clinical Nursing Practicum ★3 Provides opportunity for integration and application of content presented in NURS 242 and 243 in a clinical setting. Focus is on further development of communication skills, assessment skills, and basic nursing measures. Prerequisite: NURS 243 and PHYSL 162.

NURS 325 Clinical Nursing in Acute Care Settings II ★3 Provides opportunity for in depth clinical practice involving care of individuals in selected age groups with health deviations. Emphasis on the integration of content (knowledge, skills and attitudes) from nursing and related disciplines. Prerequisite: NURS 320, 321 and 333.

NURS 377 Nursing Care of the Critically Ill Adult in Emergency and Intensive Care Units I ★3 Introduction to assessment and care of patients in emergency and intensive care. Includes classroom and laboratory instruction and supervised practice in a community general hospital.

NURS 378 Nursing Care of the Critically Ill Adult in Emergency and Intensive Care Units II ★3 Continuation of introduction to assessment and care of emergency and intensive care patients. Includes classroom and laboratory instruction and supervised practice in a community general hospital.

NURS 464 Nursing of Clients with Health Deviations III ★6 A concentrated learning experience in the nursing care of individuals and/or groups with complex behavioral and organic deviations. All nursing systems will be utilized. No other course can be taken concurrently. Prerequisite: NURS 367.

NURS 480 Trends and Issues ★3 Exploration of trends and issues arising from societal forces that have implications for nursing practice, education and research at provincial, national and international levels. Students will examine significant demographic, political, economic, legal and ethical issues in the context of scientific and technological change. Basic nursing students must take this in fourth year.

NURS 481 Management of Nursing Systems ★4 Introduction to management of nursing services; field practicum. Prerequisite: SOC 465.

NURS 560 Lec 10 Advanced Study in Nursing: Curriculum Development in Nursing Practice ★3 An introduction to curriculum development in nursing with a major emphasis on exploring a conceptual framework for curriculum development. Issues related to curriculum implementation and evaluation will also be addressed. Prerequisite: NURS 502.

NURS 560 Lec 11 Advanced Study in Nursing: Clinical Teaching in Nursing Practice ★3 Opportunities to develop, test, and evaluate new strategies for clinical teaching in various nursing education/practice settings.

NURS 560 Lec 12 Advanced Study in Nursing: Theories of Drug and Substance Abusee ★3 Exploration of contemporary theories of drug and substance abuse derived and extended from developmental, personality, learning, and social psychologic theories, including their applicaiton to research and clinical practice in a variety of settings.

NURS 560 Lec 13 Advanced Study in Nursing: Research and Practice in Parent and Infant/Child Assessment and Intervention ★3 Prerequisite: NURS 502, if this course is taken as an alternative to NURS 506 by MN students.■

OCCUPATIONAL THERAPY

***OCCTH 106 Communication Theory and Helping Relationship** ★3 Interpersonal communication theory and application to health care. Exploration of values and attitudes as they affect professional/client relationships.

***OCCTH 107 Models, Approaches, and Service Delivery** ★3 Fundamental concepts of occupational therapy and their application in health care delivery. Implications of legal, educational, and governmental influences on service models.

OCCTH 328 Fieldwork ★3 A period of 8 weeks in approved hospitals and institutions for practical experience within occupational therapy departments. Prerequisite: Consent of the Department.

OCCTH 410 Fieldwork ★3 Credit. Practical application of occupational therapy techniques under the supervision of occupational therapy staff in approved facilities. Prerequisite: OCCTH 428.

OCCTH 411 Fieldwork ★3 Credit. Practical application of occupational therapy techniques under the supervision of occupational therapy staff in approved facilities. Prerequisite: Consent of the Department.

OCCTH 412 Fieldwork ★3 Credit. Practical application of occupational therapy techniques under the supervision of occupational therapy staff in approved facilities. Prerequisite: Consent of the Department

OCCTH 428 Fieldwork ★3 8 weeks in approved institutions or hospitals for practical experience in occupational therapy departments. Prerequisite: All required courses in third year of program.

OCCTH 498 Special Seminars: Human Sexuality — Interaction in Helping Relationships ★3 Content varies from year to year. Topics will be announced prior to registration period. Prerequisite: Consent of the Department.

OCCTH 598 Special Seminars ★3 Content varies from year to year. Topics will be announced prior to registration period. Prerequisite: Consent of the Department. May be repeated.■

ORGANIZATIONAL ANALYSIS

Note: The following courses are open to graduate students only.
ORG A 502 The Individual in Groups and Organizations ★3
ORG A 686 Selected Topics in Behavioral Sciences ★3■

ORGANIZATION THEORY

ORG T 301 Behavior in Organizations ★3 Examines the sociological and psychological bases of individual behavior in organizations. Topics of individual psychology examined will include cognition, perception, attitude formation and change, personality structure and change, and motivation. The course will also investigate the behavior of individuals in groups and organizations. In this context various aspects of group dynamics such as leadership, communication, interpersonal sensitivity, morale and satisfaction, and the formation and attainment of individual and group goals will be discussed.

ORG T 311 Theory of Formal Organizations ★3 An examination of the structural and functional imperatives of formal organizations. Formation, structure, and change in complex organizations including bureaucratic, matrix, and process-oriented types of organizational designs. Power, authority, and legitimacy variables are examined using anthropological and sociological methodological constructs.■

PHYSICAL EDUCATION AND SPORT STUDIES

PAC 200 Swimming ★1.5 Personal skill acquisition in the front and back crawl, breaststroke, sidestroke, and elementary backstroke. Selected aquatic skill techniques are also required.

PAC 211 Basketball ★1.5 Personal skill acquisition in individual and team activities.

PAC 231 Badminton ★1.5 Personal skill acquisition in service and service return, forehand and backhand drive, clear and smash, drop shots, and basic strategies. Students must supply own equipment.

PAC 233 Racquetball ★1.5 Personal skill acquisition in service and service return, forehand and backhand strokes, and basic tactics. Students must supply own equipment.

PAC 234 Squash ★1.5 Personal skill acquisition in service and service return, forehand and backhand strokes, and basic tactics. Students must supply own equipment.

PAC 235 Tennis ★1.5 An introduction to the basic tennis strokes (forehand, backhand, serve, and volley) and strategies. Student must provide own equipment.

PAC 240 Baseball/Fastball ★1.5 Personal skill acquisition in individual and team activities.

PAC 245 Golf ★1.5 Personal skill acquisition in driving, chipping, pitching and putting. $35.00 will be charged for green and range fees.

PAC 270 Track and Field ★1.5 Personal skill acquisition in the sprints, long jump and shot put.

PAC 300 Advanced Aquatics ★3 This course is designed to introduce the swimmer to advanced stroke and skill techniques. Selected topics related to RLSS Bronze Medallion may also be included. Prerequisite: PAC 200 or must be able to swim 300 metres non-stop. Proficiency in front crawl and back crawl, breaststroke, sidestroke and elementary backstroke must be demonstrated.

PAC 303 Skin and Scuba Diving ★3 The scientific principles of skin and scuba diving and their practical application to the sport of skin and scuba diving. Course may lead to Scuba certification at the National level (PADI, NAUI, ACUC). Students must provide their own snorkel gear (mask, fins, snorkel, weight belt and gloves). A fee will be charged for air used. Prerequisite: PAC 200 or old P ED 227, Red Cross Intermediate Level or equivalent; lifesaving training at the RLSS bronze is highly desirable. All students should be prepared to participate in a Spring trip in order to experience.

PAC 311 Analysis and Instruction of Basketball ★3 The theory, practice, and teaching of the fundamental skills of basketball. Prerequisite: PAC 211 or consent of the Department.

PAC 355 Introduction to Yoga ★3 Emphasis on philosophy, scientific basis and unique yoga approach to fitness and stress management along with practice of yoga asanas.

PAC 380 Small Craft Leadership ★3 The theory and practice of canoe and kayak instruction and trip leadership appropriate for various populations. Opportunities will be given to attempt ARCA and CRC certification. A $30.00 equipment user fee is charged. Prerequisite: PAC 280 or consent of the Department. 164.2.4Courses in Physical Education and Sport Studies

PESS 203 Skill Acquisition and Performance ★3 The course is designed to examine the theory of skill acquisition and performance throughout the lifespan in typical sport and physical activity situation. For BPE students only.

PESS 210 Physical Fitness Theory and Practice ★3 Knowledge and understanding of basic concepts of fitness and nutrition with practical applicaton geared to individual needs. (For BPE students and BEd PE majors only.)

PESS 260 Introduction to Coaching ★3 This course introduces the student to a variety of coaching topics of both a theoretical and a practical nature. This course is inclusive of the content of the NCC Program (Theory Levels I and II).

PESS 292 Introduction to the Movement Activities of Children Aged 0-8 ★3 A study of free play and organized physical activities of young children in recreational, educational, and sports environments. Class members will engage in practical physical activity and the observation of children. This course is not open to students who have received credit for PESS 293 or equivalent.

PESS 293 Introduction to the Movement Activities of Children Aged 5-12 ★3 A study of free play and organized physical activities of school age children in recreational, educational, and sport environ-

ments. Class members engage in practical physical activity and the observation of children. This course is not open to students who have received credit for PESS 292 or equivalent.

PESS 294 Introduction to the Movement Activities of Youth ★3 A study of the fundamental movement concepts that underlie the physical activities engaged in by youth of secondary school age.

PESS 302 Motor Learning, Memory and Control ★3 An introduction to the processes involved in the learning, memory, and control of human movement; with application to teaching, coaching, and competitive games. Prerequisite: PESS 203 or consent of the Department.

PESS 304 Sociology of Physical Education and Sport ★3 The characteristics, processes, and problems of sport as a social system with particular reference to North American society. Prerequisite: PESS 204 or consent of the Department.

PESS 308 Motor Development and Motor Learning ★3 A study of those relationships between physical maturation and environmental factors which can influence the acquisition of motor skills. (Not for BPE degree credit).

PESS 309 Introduction to the Scientific Basis of Human Movement ★3 Lecture course with an emphasis on introductory knowledge and practical implications of the structural and functional characteristics and capacities of the human body with respect to movement. (Not for BPE degree credit.)

PESS 310 Advanced Conditioning Methodology ★3 Theoretical basis of conditioning programs. Emphasis on metabolic and physiological rationale for selected regimens. Prerequisite: PESS 300 or consent of Department.

PESS 382 Wilderness Living, Navigation and Travel ★3 Principles and practice of individual and group wilderness travel. A $30.00 user fee is charged. Prerequisite: PESS 280.

PESS 385 Outdoor Environmental Leadership Practicum I ★3 Principles, methods and supervised practice of outdoor environmental education leadership. A half-course offered in either term over the full session. Prerequisite: PAC 280. For BPE students only.

PESS 401 History of Physical Education and Sport ★3 An overview of the social significance of physical education and sport from ancient to modern times, with special reference to developments in Canada. Prerequisite: PESS 204.

PESS 404 Comparative Physical Education and Sport ★3 An examination of physical education and sport in selected countries will be used to complement an international overview and perspective, with special reference to development in Canada.

PESS 490 Applied Ethics in Physical Education and Sport ★3 A philosophical examination of ethical questions in the professional practice of physical education and sport.

PESS 494 Physical Activity and Aging ★3. An examination of the role of physical activity on the health and lifestyle of older adults.

PESS 499 Sem 30 Directed Studies: Wilderness Living Skills, Arts, and Crafts ★3 Prerequisite: Consent of the Department.

PESS 499 Sem 31 Directed Studies: Sport and Drugs ★3 Prerequisite: Consent of the Department.

PESS 499 Sem 60 Directed Studies: Athletic Activity in a Film Medium ★3 Prerequisite: Consent of the Department.

PESS 582 Graduate Seminar: A Seminar in Current Factors, Problems and Issues (Sport and Drugs) ★3

PESS 590 Research and Directed Studies I ★3

PESS 591 Research and Directed Studies II ★3

PESS 599 Directed Studies and Reserach: Athletic Activity ★3■

PHILOSOPHY

Note: The Department offers three different introductory logic courses. PHIL 121 may provide some introduction to formal logic, but emphasizes the analysis of informal arguments as they occur in everyday contexts. PHIL 122, designed for students with no familiarity with formal reasoning, is an introduction to formal logic, but with a strong emphasis on its practical application. PHIL 389 is an intensive introduction to formal logic which is designed for Honors students and students with some previous background in logic or with a good facility for formal reasoning. Students who have a good facility with formal reasoning are encouraged to take PHIL 389 as their first course in formal logic. There is some redundancy among the three introductory courses; thus, students who remain uncertain as to which introductory logic course would be most appropriate for them are strongly encouraged to enquire at the Department office for further guidance.

PHIL 121 Practical Logic ★3 Elementary methods and principles for analyzing arguments. Topics may include informal fallacies, introduction to scientific method, elementary statistical reasoning, elementary propositional logic, rational decision procedures. (See note concerning introductory logic courses above).

PHIL 122 Elementary Symbolic Logic ★3 An introduction to modern symbolic logic including sentential and predicate logic with an emphasis on the application of formal techniques to ordinary language. (See note concerning introductory logic courses above.) Not available for credit to students with credit in PHIL 389.

PHIL 130 Problems of Philosophy ★3 Some of the central issues of philosophy. Topics such as freedom and determinism, the concept of a person, mind and body, the existence of God, the nature of goodness, justice and value, the nature of knowledge, belief and truth, the problems of scepticism and knowledge in regard to ourselves, other persons, and the external world.

PHIL 139 Philosophical Analysis of Contemporary Issues ★3 Philosophical analysis of contemporary problems of social concern. Topics such as minority and majority rights, cultural preservation, war and violence, censorship, medical ethics, abortion, sexual equality, our place in the natural environment.

PHIL 140 Introduction to Western Philosophy ★6 An introduction to the main problems and theories that have dominated philosophical thought in the Western world, through study and critical discussion of selected philosophical classics. Readings will include Plato's *Republic* **and Descartes'** *Meditations* **and a major work of Hobbes, Locke, Berkeley or Hume.**

PHIL 303 Human Beings in Society ★3 A study of the person in relationship with others the notions of law, right, duty, community.

PHIL 323 Philosophy of Mind ★3 Approaches to the question of what it means to be a person and have a mind. The relationship of philosophical ideas to scientific investigations of mental phenomena will be studied. Specific topics include: the mind-body relationship, personal identity, memory, imagination, intention, desire, emotion and sensation.

PHIL 332 Feminist Issues in Political and Social Philosophy ★3 An introduction to feminist issues in current social and political philosophy. Comparison and evaluation of various schools of current feminist thought such as liberal feminism, radical feminism, Marxist feminism, and socialist feminism.

PHIL 339 Ethics I ★3 An examination of questions of right and wrong, good and evil, and reasons for action, through study of the ethical theories of authors such as Plato, Aristotle, Hobbes, Kant and JS Mill.

PHIL 364 Introduction to Philosophy of Science ★3 An introduction to the central issues in contemporary philosophy of science: theory evaluation (inductive logic, confirmation theory, the historical approach of Kuhn and Lakatos); explanation; inter-theoretic reduction.■

PHILOSOPHIE/PHILOSOPHY

PHILE 121 Logique pratique ★3 Les procédés et les principes d'analyse des arguments. La matière du cours pourra inclure les sophismes informels, l'initiation à la méthode scientifique, le raisonnement statistique élémentaire, la logique "propositionnelle" élémentaire et les procédés susceptibles de mener à une décision rationnelle. Note: La priorité sera accordée aux étudiants du BA de la Faculté Saint-Jean.■

PHYSICS

Note 1: Credit may be obtained in only one of PHYS 105, 131, 141, or 203.

Note 2: Credit may be obtained in only one of PHYS 106, 137, or 143.

PHYS 105 Introductory General Physics I (Mechanics) ★3 Vectors, forces in equilibrium, linear and rotational motion, dynamics of particles, oscillations. Prerequisite: Physics 30 Mathematics 30. Credit may be obtained for only one of PHYS 105, 131, 141, or 203.

PHYS 106 Introductory General Physics II ★3 Fluids, Kinetic theory, heat and thermodynamics, electric charge, electric field, electric potential, electric currents, DC circuits. Prerequisite: PHYS 105 or 203. Students with credit in PHYS 207 and/or PHYS 209 may not take PHYS 106. Credit may be obtained in only one of PHYS 106, 137 or 143.■

PLANT SCIENCE

PL SC 505 Research Project in Plant Science ★3 Individual study.■

PHARMACOLOGY

PMCOL 222 Drugs, Medicine and Man ★3 This course is designed to acquaint the student who has limited scientific background with many aspects of drug use and abuse in our society. Some of the topics to be covered will include mind-altering drugs, treatment of pain, herbal and folk medicine, antibiotics, nerve gases and insecticides, food additives and vitamins, over-the-counter drugs, poisons, and toxins, and health quackery.

PMCOL 405 Introduction to the Pharmacology of Drug Abuse ★3 An introduction to the complexities of drug abuse and the drugs of abuse. The student will be introduced to the psychological and social problems of drug abuse and their impact upon the abuser. Objectives of the course are to develop an understanding of addiction and a detailed knowledge of the nature of the commonly abused substances. Emphasis will be placed upon the pharmacology of drugs of abuse. The specific drugs to be studied will vary, students will have a voice in determining the drugs to be studied. Prerequisite: consent of the Instructor.■

POLITICAL SCIENCE

POL S 300 Comparative Political Systems ★6. Comparative analysis of selected major political systems of the present day, with emphasis on the relationships between political functions and social processes. This is the core course in the field of comparative government and politics and a prerequisite for most 400-level courses in the field.

POL S 312 Ethics and Politics ★3 An examination of some moral issues that arise in the political realm, such as the law regarding abortion and euthanasia, capital punishment, obscenity, and the rights of aboriginal peoples. Note: Not intended for students specializing in political science.

POL S 321 Canadian Government ★3 The structure and function of the government of Canada, provincial governments, and local governments. Note: Designed primarily for students who want one senior course in political science. Not intended for students specializing in political science. Not open to students who are taking or have taken POL S 100.

POL S 360 International Relations ★6. An introduction to contemporary international relations that attempts to develop an understanding of political events at the international level. The course covers the nature of foreign policy, the dynamics of interactions between states, the causes of war, imperialism and the role of non-state actors. Note: This is the core course in the field of international relations and a prerequisite for most 400-level courses in the field.

POL S 363 Issues in International Politics ★3 Contemporary issues of conflict and cooperation. Note: Not intended for students specializing in political science. Not open to students who are taking or have taken POL S 360, 361 or 362.

POL S 376 Problems of Political Development ★3 With its focus on the problems of political integration, political corruption, political stability, elite domination, military and political violence, this course takes a thematic approach and examines the prospects of development and modernization and maintenance of political order in several developing countries.■

PSYCHOLOGIE DE L'ÉDUCATION/EDUCATIONAL PSYCHOLOGY

PS ED 482 Sensibilisation aux difficultes d'apprentissage chez l'enfant d'age scolaire. ★3 Concepts d'apprentissage et de difficultés d'apprentissage. Etude des difficultés d'apprentissage les plus fréquentes en milieu scolaire. Impact de ces difficultés sur la vie émotive de l'enfant, sur sa vie à l'ecole, sur les parents et sur la famille en général. Possibilitiés d'interaction et d'aide de l'enseignant face à ces difficultés. Prérequis: PS ED 267 ou 367 ou l'accord du responsable de pédagogie.■

PSYCHOLOGY

PSYCO 104 Basic Psychological Processes ★3 Principles and development of perception, motivation, learning, and thinking and their relationship to the psychological functioning of the individual. The course is a prerequisite to most courses in the department and is normally followed by PSYCO 105.

PSYCO 105 Individual and Social Behavior ★3 Introduction to the study of human individuality, personality, and social psychological processes. Some aspects of normal and abnormal human development, psychological assessment and treatment may be reviewed. Prerequisite: PSYCO 104.

PSYCO 211 Statistical Methods for Psychological Research ★3 Application of statistical methods to psychological problems; description of psychological data in terms of averages, measures of variability, and measures of relationships; problems of sampling theory and tests of statistical hypotheses. Prerequisite: Mathematics 30 and PSYCO 104. This course may not be taken for credit if credit has already been obtained in any of STAT 141, 155, 235, 236, 237, 255, 265, 266.

PSYCO 223 Developmental Psychology ★3 Biological, cognitive and social aspects of psychological development, with special emphasis on infancy, childhood and adolescence. Prerequisite: PSYCO 104/105 or equivalent. Note: PSYCO 223 and FAM 343 may not both be taken for credit.

PSYCO 233 Personality ★3 An introductory survey including representative theoretical points of view and research relevant to the major problems of the study of personality. Prerequisite: PSYCO 104/105 or equivalent.

PSYCO 241 Social Psychology ★3 A survey of theories and research on the individual in a social context. Prerequisite: PSYCO 104/105 or equivalent. Note: PSYCO 241 and SOC 241 may not both be taken for credit.

PSYCO 258 Cognitive Psychology ★3 Surveys theoretical and empirical approaches toward issues in human cognition. Topics include: nature of mental representation; influence of knowledge on perception, comprehension, and memory; information processing; psycholinguistics; artificial intelligence. Prerequisite: PSYCO 104 and 211.

PSYCO 275 Brain and Behavior ★3 An introduction to brain mechanisms involved in sensation, perception, movement, motivation, learning, and congnition, as studied in both humans and lower animals. Prerequisite: PSYCO 104 and Biology 30 or equivalent.

PSYCO 281 Principles of Behavior Change ★3 An introduction to behavior change techniques. The course will examine the origin of such techniques in animal experimentation and learning theory, and an evaluation of their effectiveness when applied to specific problem populations. Prerequisite: PSYCO 104.

PSYCO 288 Principles of Learning ★3 A survey of the field of learning including a consideration of classical conditioning, instrumental learning, and memory. Empirical issues arising from research on non-human animals will be emphasized. Prerequisite: PSYCO 104 and PSYCO 211.

PSYCO 339 Abnormal Psychology ★3 A general introduction. Prerequisite: PSYCO 233. Note: Not open to students with credit in PSYCO 489.

PSYCO 353 Memory and Attention ★3 An introduction to the study of mental processes in memory, attention, and cognition. Topics include visual information processing, attention, short and long-term memory phenomena, learning, and language comprehension. Note: Formerly PSYCO 363. Not to be taken by students with credit in that course. Prerequisite: PSYCO 104 and 211.

PSYCO 431 Theory and Practice of Psychometrics ★3 The nature of psychological tests; survey of the various types of standardized tests; some practical work in administration, scoring and interpretation of tests. Prerequisite: PSYCO 104/105 (or equivalent) and 211.■

PHYSICAL THERAPY

PTHER 429 Clinical Practice IV ★3 Credit. Clinical practice in approved clinical facilities.

PTHER 431 Clinical Practice V ★4.5 Credit. Clinical practice in approved clinical facilities.

PTHER 433 Clinical Practice VI ★4.5 Credit. Clinical practice in approved clinical facilities.■

RURAL SOCIOLOGY
(Department of Rural Economy)

R SOC 391 Principles of Rural Extension ★3 Introduction to concepts involved in organizing and implementing effective programs for social change in rural communities. The processes by which farm and rural people learn about, try out and adopt or reject new ideas and innovations. Development of an appreciation for the multidisciplinary nature of the rural extension function. Prerequisite: Third year standing or higher. Rural Economy and Sociology.) [Rural Economy]

R SOC 491 Planning and Evaluation of Extension Programs ★3 (second term, 3-0-0). The nature and importance of and principles involved in planning, programming, implementation, and evaluation; knowledge, skills and attitudes required of professional workers engaged in human resources development and extension work. Prerequisite: R SOC 391.■

RELIGIOUS STUDIES

RELIG 277 Women and World Religions ★3 We examine attitudes towards women in selected world religious traditions, specifically with respect to their participation in ritual and religious leadership.

RELIG 304 Buddhism in India: Mahayana ★3 The form of later Buddhism in India. Prerequisite: RELIG 303.

RELIG 356 Christian Theology I ★3 The emergence of the Catholic tradition and the growth of medieval theology to 1300.

RELIG 375 Thanatology ★3 A consideration of death and dying in the great religious traditions, with particular emphasis on the recent literature.■

RECREATION AND LEISURE STUDIES

Notes:
(1) Priority will be given to recreation students in all recreation courses that are required for the BA (Recreation Administration) degree program.
(2) All out-of-Department students are recommended to complete RLS 120 (Introduction to Recreation and Leisure Studies) or RLS 401 in order to take any other recreation course.
(3) Where an appropriate background can be demonstrated, RLS 120 (or REC 401) and other prerequisites may be waived, with the consent of the Department.

RLS 431 Volunteers and Voluntary Organizations in Recreation ★3 An examination of I) The nature of volunteer involvement in the delivery of recreation and II) The structure and processes of the voluntary organizations that make up the recreation delivery system.■

RUSSIAN
(Department of Slavic and East European Studies)

RUSS 301 Intensive Second-Year Russian ★6 In-depth intensive coverage of Russian morphology with emphasis on communicative skills. Prerequisite: RUSS 100, or 101, or consent of the Department.

RUSS 498 Conference Course (Linguistics) ★3 Students as well as staff may initiate proposals in any given year for the content of this course. Please consult the Department Chair for the procedure for student-initiated proposals.■

SOCIOLOGY

SOC 100 Introductory Sociology ★3 An examination of the theory, methods and substance of sociology. The study of how societies are shaped including culture, socialization, deviance, stratification and groups. The process of social change through social movements, industrialization, etc. Note: Third-year or more advanced students should take SOC 300 rather than SOC 100. Not to be taken by students with credit in SOC 202 or 300.

SOC 101 Canadian Society ★3 Development of Canadian society: including such topics as French-English relations, regionalism, relations with the USA, native rights, Canadian mosaic, inequalities and conflicts. Prerequisite: One of SOC 100, 202 or 300. Note: Not to be taken by students with credit in SOC 322.

SOC 102 Social Problems ★3 An examination of social problems, with particular emphasis upon their social construction; selected structural and behavioral problems (e.g., social inequality, intergroup relations, drug use, mental and physical disabilities); social responses to social problems. Prerequisite: One of SOC 100, 202 or 300. Note: Not to be taken by students with credit in SOC 321.

SOC 210 Introduction to Social Statistics ★3. Statistical reasoning and techniques used by sociologists to summarize data and test hypotheses. Topics include describing distributions, cross-tabulations, scaling, probability, correlation/regression, and non-parametric tests. Prerequisite: One of SOC 100, 202 or 300. Not open to students with credit in prior statistics courses, e.g., PSYCO 211, MGTSC 306, 307, STAT 141, 155, 235, 236, 237. Not to be taken by students with credit in SOC 311.

SOC 224 Sociology of Deviance and Conformity ★3 Processes involved in defining behavior patterns as deviant; factors which influence conformity and change; examination of such behavior patterns as sexuality, alcoholism, drug use, and selected mental and physical disabilities; public reaction to such behavior. Prerequisite: One of SOC 100, 202 or 300. Note: Not to be taken by students with credit in SOC 320 or 321.

SOC 225 Criminology ★3 Examination and attempted explanation of crime and juvenile delinquency, with an analysis of the social processes leading to

SOC 241 Social Psychology ★3 An introduction to the study of individual and group behavior observed in social processes. Prerequisite: One of SOC 100, 202 or 300, or PSYCO 104 or 105; EDPSY 163 or 371. Note: SOC 241 and PSYCO 241 may not both be taken for credit.

SOC 251 Population Concerns ★3 Population trends and problems in Canada and the rest of the world; social and cultural factors underlying fertility, mortality, and migration patterns and differentials; their relationship to the "population explosion," population composition and distribution; basic population methodology; urbanization; population theory and policy. Prerequisite: One of SOC 100, 202 or 300.

SOC 260 Inequality and Social Stratification ★3 Introduction to the study of structured social inequalities and poverty; major theoretical approaches; findings from key empirical studies, with emphasis on Canada. Prerequisite: One of SOC 100, 202 or 300.

SOC 261 Social Organization ★3 Social systems, their components, interrelations, and the bases of social differentiation and integration. Prerequisite: One of SOC 100, 202 or 300.

SOC 271 Introduction to the Family ★3 An introduction to the study of family relationships and their variant forms with focus on mate selection, couple, kin, age and gender dynamics, family dissolution or reconstitution and change. A comparative approach with emphasis on families in Canada. Prerequisite: One of SOC 100, 202, or 300.

SOC 300 Principles of Sociology ★3 Basic concepts and principles of Sociology for students with advanced standing. Prerequisite: Senior or graduate standing. Note: May not be taken for credit by students with credit in SOC 100 or 202.

SOC 301 Sociology of Gender ★3 Comparative study of sex roles in selected societies with an emphasis upon contemporary Canada; sex-specific role behaviors and theories regarding their origin; recent sociological research on the social effects of sex roles. Prerequisite: One of SOC 100, 202 or 300.

SOC 315 Introduction to Social Methodology ★3 Research design, data collection, and data processing strategies used by sociologists. Topics include research values and ethics, reliability and validity, experimentation, survey research techniques, historical methods, field research, and content analysis. Prerequisite: SOC 210. Note: Not to be taken by students with credit in SOC 311.

SOC 327 Criminal Justice Administration ★3 The evolution and evaluation of the theories of punishment; the law, the police and the courts; penal and reformatory institutions; probation and parole; experiments in reform and rehabilitation. Prerequistite: SOC 311.

SOC 332 The Development of Sociology I ★3 A survey of the origin and the development of classical sociological theory, with particular emphasis on Comte, Spencer, Marx, Derkheim and Toennies. Prerequisite: One of SOC 100, 202 or 300.

SOC 333 The Development of Sociology II ★3 A survey of the contributions of modern and contemporary sociological theorists, particularly Weber, Pareto, Parsons, Mead, and others. Prerequisite: SOC 332.

SOC 343 Collective Behavior ★3 Analysis of various forms of collective behavior, including crowds, mobs, social movements, and fugitive behavior patterns. Prerequisite: One of SOC 100, 202 or 300 or 241 or PSYCO 241.

SOC 344 Public Opinion and Mass Communication ★3 Factors involved in the formulation and assessment of public opinion; the role of the media in mass communication .Emphasis on Canadian society. Prerequisite: One of SOC 100, 202 or 300 or 241, or PSYCO 241.

SOC 368 Canadian Ethnic and Minority Relations ★3 Analysis of social processes leading to the development and understanding of minority status: case studies of ethnic and minority-group relations, with reference to cross- national studies. Prerequisite: One of SOC 100, 202 or 300.

SOC 376 Sociology of Religion ★3 Religion as a social phenomenon; theories of religious behavior; religious athority and leadership; the individual's religion and the interplay with other spheres of social life; the role of religion in relation to social change and social intergration. Prerequisite: One of SOC 100, 202 or 300.

SOC 382 Introduction to Medical Sociology ★3 The distribution of health and illness in human populations, and the social psychology of health and illness, and the social organization of health care. Prerequisite: One of SOC 100, 202, or 300.

SOC 459 The Demography of Marriage and Family ★3 Review and analysis of the demographic interre;ationships of fertility, mortality, and migration with marriage and the family; a cross-cultural review of historical trends, contemporary patterns and future implications; emphasis on statistical measurement, family planning and policy in the Canadian setting. Prerequisite: SOC 271.

SOC 465 Sociology of Complex Organizations ★3 Approaches to formal organization and management; division of labor and its organizational implications, deviance and conflict within organization, problem solving, and organizational authority. Prerequisite: SOC 261.

SOC 473 Sociology of Death and Dying ★3 Comparative examination of death and dying in socio-cultural contexts, including theoretical and methodological issues. Prerequisite: SOC 241, or 261, or 375.■

SPEECH PATHOLOGY AND AUDIOLOGY

SPA 400 Introduction to Clinical Practicum ★3 Credit. Practical application of clinical procedures under direct supervision for a minimum of one hour per week. This course may also be offered during spring session.

SPA 410 Clinical Practicum ★3 Credit. Advanced practical application of clinical procedures under direct supervision. Students will normally enrol three times during their program of study, accruing a minimum of 44 supervised practicum hours during each enrolment. This course may also be offered during spring and/or summer session. Prerequisite: SPA 398 and SPA 400.

SPA 480 Clinical Internship ★3 Students normally will spend ten weeks during the summer following their third year in full-time clinical practice under direct supervision in an approved institution. A normal minimum of 157 supervised practicum hours will be obtained. Prerequisite: SPA 398, SPA 400, and one term of SPA 410.■

SPANISH

SPAN 100 Beginners' Spanish ★6 A basic course, intended for students with no previous knowledge of the language, emphasizing spoken and written Spanish. Not open to students with credit in matriculation-level Spanish.■

STATISTICS AND APPLIED PROBABILITY

STAT 141 Introduction to Statistics ★3 Random variables and frequency distributions. Averages and variance. The binomial and normal distribution. Sampling distributions and elementary inference. The ^{2}-test for contingency tables. Regression and correlation. Analysis of variance. Prerequisite: Mathematics 30 or consent of the department. This course may not be taken for credit if credit has already been obtained in any of STAT 155, 235, 236, 237, 255, 265 or PSYCO 211.

STAT 237 Biostatistics ★3. Frequency distributions, measures of central tendency and dispersion, methods of sampling biological populations, sampling distributions, elementary inference on means and proportions, analysis of variance, regression and correlation, contingency tables. The concepts will be motivated by problems in the life sciences. Difficulties in actual applications will be stressed. Prerequisite: A 100-level biological sciences course. This course may not be taken for credit if credit has already been obtained in any of STAT 141, 155, 236, 255, 265 or PSYCO 211.

STAT 255 Introductory Statistics for Economics ★6 Frequency distributions and graphs. Sample statistics. Basic probability. Probability distributions and the expectation operator. Sampling. Significance tests and sampling distributions. Contigency tables. Regression and correlation. Analysis of variance. Times series. Index numbers. Nonparametric inference. Prerequisite: MATH 113 or equivalent. This course may not be taken for credit if credit has already been obtained in any of STAT 155, 235, or 265.

STAT 265 Elements of Probability Theory ★3 Finite probability spaces; random variables, random vectors and probability distributions on finite spaces; introduction to discrete and continuous random variables. Prerequisite: MATH 115 or equivalent. Corequisite: MATH 214. Credit may not be obtained for both STAT 265 and STAT 221.

STAT 266 Elements of Statistics ★3 Principles of statistical inference on finite sample-spaces; introduction to statistical inference on discrete and continuous space; some common statistical procedures. Prerequisite: STAT 265. Corequisite: MATH 215. Credit may not be obtained for both STAT 266 and STAT 222.

STAT 341 Applied Statistical Methods ★3. Methods in applied statistics including regression techniques, analysis of variance and covariance, and methods of data analysis. Applications are taken from the Social and Physical Sciences and Commerce. Prerequisite: STAT 141, 155, 236, or 237 or equivalent. Note: This course is not available to a student in the Honors or Specialization programs in Mathematics and/or Statistics.■

UKRAINIAN
(Department of Slavic and East European Studies)

UKR 327 Early Ukrainian-Canadian Culture ★3 A survey of the cultural heritage of Ukrainian immigrants who settled in Western Canada in the late nineteenth and early twentieth centuries. Note: This course is given in the Spring Session only. Not accepted to meet concentration requirements for the BA (General) in Ukrainian. Language of instruction is English.■

ZOOLOGY

ZOOL 120 Principles of Animal Biology ★3 An introduction to the structure, function, and phylogeny of animals, with emphasis on regulation of metabolism, reproduction and development, and interactions among organisms. Prerequisite: Biology 30. May not be taken if credit has been obtained in both BIOL 296 and 299.

ZOOL 241 Vertebrate Physiology ★3 Functional biology at the organ system level. A student may not register concurrently for ZOOL 241 and either ZOOL 242 or PHYSL 310. A student with credit in either ZOOL 242 or PHYSL 310 may not obtain credit in ZOOL 241. Prerequisite: ZOOL 120.

ZOOL 260 Man and Biosphere ★3 A consideration of man's place in the biosphere and of the biological bases of environmental problems including population, pollution, and consideration of renewable and aesthetic resources. Note: Credit may not be obtained for both BIOL 110 and ZOOL 260. Prerequisite: One full year of university level biology, preferably including BIOL 100 or equivalent.

274 Contact Phone Numbers

University Operator	**492-3111**
Advisory Services Centre	2735
Agriculture & Forestry (Faculty of)	4931
Arts (Faculty of)	4295
Bookstore	4215
Business (Faculty of)	5693
Campus Security	**5252**
Career & Placement Services	4291
Dentistry (Faculty of)	3117
Disabled Student Services	3381
Education (Faculty of)	3757
Effective Writing Resources	2682
Extension (Faculty of)	3116
Engineering (Faculty of)	3320
Faculte Saint-Jean	465-8700
Fees (Comptroller's Office)	**3389 (*)**
Graduate Students' Association	2175
Graduate Studies (Faculty of)	3499
Health Services	**2612**
Home Economics (Faculty of)	3824
Housing and Food Services	4281
Human Rights	**7325**
International Centre	2692
Law (Faculty of)	3115
Library & Information Studies (Faculty of)	4578
Library Information	4174
Loans (Applications for)	3221
Medicine (Faculty of)	6621
Native Student Services	5677
Native Studies (School of)	2991
Nursing (Basic Program)	6249
Nursing (Graduate Programs)	6251
Nursing (Post-RN Program)	6237
Parking Services	3811
Physical Education & Sport Studies	5601
Recreation and Leisure Studies	5171
Rehabilitation Medicine (Faculty of)	2903
Registrar's Office (General Information)	**3113**
St. Joseph's College	7681
Science (Faculty of)	4758
Special Registrations Coordinator	**4610**
Special Sessions	**3752**
Student Awards	3221
Student Counselling Services	5205
Student Services Offices	4145
Students' Union	4241
Telephone Registration Problems	**8237**
Unclassified Student Program	**4610**

(*) Answering machine - listen through message, staff member will answer

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Saskatchewan Drive
Saskatchewan Drive
Edinboro Road
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91 Avenue
89 Avenue
89 Avenue
89 Avenue
90 Avenue
116 Street
114 Street
112 Street
111 Street
110 street
87 Avenue
117 Street
112 Street
83 Avenue
114 Street
University Avenue
N

Campus Guide Alphabetical Legend

Buildings

K3 Aberhart Hospital (a)
J4 Aberhart Residence (a)
J3 Aberhart Rehabilitation (b)
E4 Administration Building (b)
D3 Agriculture/Forestry Centre (c)
D6 Arts Building (a)
E3 Art Workshop 1 (b)
D3 Art Workshop 2 (a)
C4 Assiniboia Hall (c)
F6 Alberta Culture (b)
D4 Athabasca Hall (a)
C4 Avadh Bhatia Physics Laboratory (b)
D3 Blench Hydraulics Laboratory (d)
B4 Biological Sciences Centre (a)
C6 Business Building (b)
D5 Cameron Library (b)
J5 Canadian Red Cross Blood Transfusion Bldg (a)
D5 Central Academic Building CAB (d)
C2 Chemical Mineral Engineering Building (a)
D5 Chemistry Centre, East and West (a)
E5 Civil/Electrical Engineering Building (c)
I5 Clinical Sciences Building (b)
K5 Corbett Hall (a)
K2 Cross Cancer Institute (a)
E5 Dentistry/Pharmacy Centre (b)
C5 Earth Sciences Building (a)
F5 Education Centre, North and South (b)
B3 Faculty Club (a)
F7 Fine Arts Centre (a)
F9 Garneau Student Housing (c)
E3 General Services Building (a)
C5 Greenhouse (c)
C6 Henry Marshall Tory Bldg (c)
C6 Henry Marshall Tory Lecture Theatres (a)
F8 Health Services Building (d)
H2 Henday Hall (c)
G6 Heritage Medical Research Building (b)
G6 Home Economics Centre (a)
E7 HUB International (a)
D7 Humanities Centre (a)
D3 Hydraulics Laboratory (d)
H2 Kelsey Hall (a)
F8 Law Centre (a)
H2 Lister Hall (b)
H1 Mackenzie Hall (d)
H5 Mackenzie, Walter C., Health Sciences Centre (b)
I3 Materials Management (a)
C3 Mechanical Engineering Building (b)
H5 Medical Sciences Building (a)
J3 Mewburn Veteran's Centre (a)
D3 Morrison Structural Engineering Bldg (b)
G5 Newton Research Building (a)
H3 Northern Alberta Jubilee Auditorium (a)
F8 North Garneau Trailer Complex (b)
C4 Nuclear Research Centre (a)
I4 Nuclear Magnetic Resonance (b)
E5 Power Plant (a)
E4 Pembina Hall (a)
E2 Printing Services Building (a)
K5 Rehabilitation Lecture (b)
I2 RE Phillips Services Bldg (a)
B3 Ring House Gallery (b)
B3 Ring House 2 (c)
B3 Ring House 3 (d)
A3 Ring House 4 (a)
C7 Rutherford House (a)
E6 Rutherford Library, North and South (a)
F5 Saint Joseph's College (a)
F6 Saint Stephen's College (a)
D5 South Laboratory (d)
D3 Structural Engineering Laboratory (b)
E4 Students Union Building SUB (c)
C3 Temporary Lab (a)
C6 Tory, Henry Marshall, Building (c)
C6 Tory, Henry Marshall, Lecture Theatres (a)
C5 Trailer Complex 1 (b)
E5 Trailer Complex 2 (d)
G3 Universiade Pavilion (b)
F4 University Hall (a)
I3 University Heating Plant (c)
I3 University Hospital Daycare (b)
I5 University Hospital Hostel (a)
I4 Educational Development Centre (a)
A2 University House (a)
C4 V Wing (d)
F3 Van Vliet Physical Education and Recreation Centre, East and West (a)
K2 WW Cross Cancer Institute (a)
H5 Walter C. MacKenzie Health Sciences Centre (b)

Parking

F5 Education Car Park
J2 Southfeild Car Park
E3 Stadium Car Park
C2 Windsor Car Park
J5 Parkade
F6 A zone
G5 B zone
H6 C zone
B5 E zone
J4 F zone
K5 L zone
D2 M zone
E7 N zone
E8 U zone
B2 V zone
H4 X zone
H2 R zone
I2 T zone
I3 K zone
D3 W zone

Notes

Notes

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University of Alberta
Edmonton, Canada
T6G 2G5

Special Sessions
Faculty of Extension
4-107A Education North

INTERSESSION 1991
(Spring and Summer Terms)

SIGNIFICANT CHANGES IN 1991:

- most 3-credit courses are now offered over a six-week period
- admission of new students through the Intersession is restricted (See the Admissions and Unclassified Student Program sections)
- early fee payment deadlines apply to courses with deferred start dates (See the Academic Schedule and Fees - Intersession sections)
- the Timetable has been consolidated into one listing of all courses offered in the Intersession

For further information on these and other questions, call, visit, or write:

Special Sessions Office
Faculty of Extension
4-107A Education North
University of Alberta
Edmonton, AB T6G 2G5

Phone: (403) 492-3752

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